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The Joseph Ladue Gold Mining and Development Company has issued a statement in which it is estimated that earnings enough have been made to render possible the payment of a dividend on the preferred stock. The money, however, has not been made out of the mines in the Yukon Region, but from trading, sawmills and the rental of the company's steamer. The statement, taken in conjunction with the original prospectus of the company, furnishes some very interesting reading, and we expect to give a careful comparison of the two next week.

The Michigan Legislature has before it several propositions for the additional taxation of copper mining companies, and at least one of these is understood to have the backing of Governor Pingree. The motive for taking up this subject at the present time is doubtless found in the high prices at which copper stocks are selling in the East, and the popular impression of fabulous profits made by those companies. One proposition is to impose a tax on capital stock, based on the selling price of each stock, and not on the par value. Another plan proposed is to levy a tax of one cent a pound on all copper mined in the State. Both these plans are essentially vicious. The copper companies should, of course, pay their fair share of taxation on the valuation of their properties, which should be detemined in the same way as that of all other property, but special taxes on industry of any kind are wrong, both in principle and policy, and in the end are sure to be injurious to the State.

The report of the Lehigh Valley Railroad Company for the year 1898 shows that the road carried during that period 11,574,835 tons of coal, the average haul being 115.72 miles, and the ton-mileage 1,339,426,383. The average receipt on this coal traffic was 0.630 cent per ton-mile, or 55 per cent. higher than the average rate on general freight, which was 0.406 cent per ton-mile. Of the tonnage reported 1,348,568 tons and 100,419,434 ton-miles were of bituminous coal. The report does not give the rates on bituminous coal separately; but assuming, as can be done with a margin of safety, that they were not higher than those on general freight, the rate on anthracite would be 0.649 cent per ton-mile, including the coal carried for the company's own use. The average cost per ton-mile on all freights—coal is not stated separately—was 0.316 cent per ton-mile. As the transportation of coal, which is moved usually in full trains at a low rate of speed, certainly costs much less than the average, the profit on all coal was more than 0.314 cent per ton-mile; on anthracite more than 0.333 cent. One-third of a cent per ton-mile, or 38.5 cents a ton, does not look like an extravagant profit, but it is a much higher surplus than the most prosperous railroads in the country—the Pennsylvania or the New York Central, for instance—can show on their freight traffic earnings.

The lower House of Congress has passed the bill providing for taking the census of 1900 as it was reported by the committee; that is, with the provision exempting appointments in the Census Bureau from the operation of the civil service law, and consequently leaving them open to the spoils politicians. The ground for opposition is, therefore, shifted to the Senate. It is not probable that the provisions of the bill will be changed in that body, unless under pressure of a decided expression of public opinion. Only three weeks now remain of this session of Congress, and unless there is prompt and energetic pressure applied the bill will surely pass, and we shall have a badly taken and unreliable census, with poorly compiled and almost useless reports. As we have heretofore remarked, nothing better is to be expected from a politically-managed bureau. It is perhaps hoping for too much to look for the appointment of a competent chief of the bureau in any event, but under the bill as it now stands it is quite certain that we shall not have such a chief, since no man really fit for the position will accept it.

We are much pleased to see that the daily papers in all the large cities, with very few exceptions, have taken the same position as our own, and have strongly urged upon Congress the strict application of the rules of the classified civil service in this case.

The British Columbian and Klondike market in London will not be improved by the publication of the report of the Klondike Mining, Trading and Transport Comporation, Limited, which has just made its appearance. This company was floated by the group of promoters who also floated the New Gold-fields of British Columbia, Limited—Sir Charles Tupper, Mr. C. Ashworth (late of the Bank of Montreal), and Mr. John Lowles. These two companies were floated a year and a half ago with a great flourish of trumpets; but any one who has read the "Engineering and Mining Journal" will not be surprised to hear that the performance of the Klondike Mining and Trading Corporation has been very different from its promise. Prospectuses of min-

ing companies floated in London always state that it is the easiest thing in the world to make money by mining; and the first annual report always begins with words like these: "In view of the unparalleled difficulties associated with all mining operations, the directors regret, etc., etc." Any one who reads prospectuses and reports regularly must get heartily tired of these reiterated formulas. The company in question is no exception to this rule; in fact, it is rather a brilliant example of it. In the prospectus they said they were going to buy certain specified claims in the Klondike, but after flotation they found that these claims had already been sold to other parties, so they had to buy some others. Then they started a transport business from British Columbia to Dawson City by way of Wrangel, Telegraph Creek and Teslin Lake, but the weather did not favor them, and they lost the bulk of their belongings. The directors lay the blame on the weather, but other people might propose to lay the blame on the directors for embarking in a business they did not understand. They also organized a prospecting expedition to prospect the Klondike and surrounding districts generally, and several claims have already been staked out; but of these and of the claims acquired by purchase, as mentioned above, the directors are not able to say anything as yet. After the failure of their transport venture they determined to look for a new route, and eventually they joined with other promoters in establishing a line of steamers between Bennett Lake and Dawson City. This latter venture promises to pay expenses, and let us hope it will recoup them for their other losses; but their experience is not encouraging.

In our issue of January 21st we gave the pig iron production for the Cumberland and West Coast District and the Scotch furnaces in Great Britain. The output of the Cleveland District is now given at 3,195,000 tons for 1898, and that of South Wales and the minor districts is estimated at 2,950,000 tons. This would make the production and consumption of pig iron in the United Kingdom as given below, in long tons:

Scotland	1,190,264
Cumberland and West Coast	1,464,740
Cleveland	3,195,000
South Wales, etc.	2,950,000
Total production	8,800,004
Add decrease in stocks	250,000
Add imports	159,523
Total supplies	9,209,527
Exports	1,042,296
Consumption	8,167,231

This makes the production for 1898 almost the same as in 1897, when it was 8,789,455 tons. Early in the year an increase of 250,000 tons at least was expected, but the strike of the Welsh miners seriously interfered with the operation of a number of furnaces.

The stocks of iron at the end of 1898 were lower than usual, and were heavily drawn on in January. The cry of a scarcity of iron has been used in the British market with effect, the result being a sharp rise in prices. Thus on December 31st Scotch pig warrants sold at $11.89, but last week the price reached $12.75 a ton, with a prospect of still higher prices. There has been a corresponding rise in Cleveland foundry and forge irons and in Bessemer pig.

We may note that No. 2 foundry iron is now selling at Alabama furnaces at $7.75 a ton, and that the current export rate from Birmingham to Liverpool is $3.25. Alabama No. 2 foundry can therefore be put down in Liverpool at $11, or $1.75 a ton less than Scotch pig is sold for at foundry or warrant yard, allowing the furnaces here the full current price.

THE BOSTON COPPER STOCKS.

The boom in the Boston market, which has carried the prices of copper mining stocks to levels wholly unprecedented, still continues. As in all such movements, the advances have not only been rapid; they have seemed wholly unreasoning. While they have affected the well-known dividend-paying companies, they have also, and to a greater degree, carried up the quotations of shares which are known to be almost or quite worthless, and of others whose real value is an unknown quantity. The Boston buyer takes shares based on properties whose values have yet to be ascertained, and which are at best mere prospects, quite as readily as those representing proved values. Of course, by far the greater part of this buying is purely speculative, in the expectation of selling again at a profit; but some of it is for investment, and in this class the new and improved properties apparently stand the better chance.

The advances in the copper stocks within the past four months have furnished an interesting chapter in the history of speculation, which is not yet closed. Their extent is shown in the following table, which gives the prices of a number of representative stocks in October, in January and during the present week; in the case of some of the new stocks the prices cannot be carried back, as the date of issue is so recent:

Dividend stocks:	Par.	Oct. 1.	Jan. 1.	Feb. 7.	Increase.
Calumet & Hecla	$25	$583	$625	$800	$217
Boston & Montana	25	223	270	348	125
Tamarack	25	173	182	240	67
Quincy	25	118	140	180	62
Osceola	25	57	85	97	40
Atlantic	25	25	31½	43	18
Wolverine	25	26	35	49	23
Speculative:					
Butte & Boston	10	23	92½	89	66
Old Dominion	25	28	36	37½	9½
Centennial	25	17	40	44½	27½
Franklin	25	13	23	28	15
New stocks:					
Arcadian	25	23½	71½	72½	49
Isle Royal	25	24	50	55	31
Baltic	25	17	30	36	19
Mohawk	25	..	..	31	..
Winona	25	..	15	17	..
Adventure	25	..	10	13	..
Old Colony	25	..	..	19	..
Rhode Island	25	..	..	12	..

In order to emphasize the comparison and to show the great amounts at which speculation has valued the copper properties, we add the following table, which shows the par value of a number of leading stocks and their selling prices at the quotations on Wednesday of the current week:

	Par Value.	Present Price.
Calumet & Hecla	$2,500,000	$80,000,000
Boston & Montana	3,750,000	52,200,000
Tamarack	1,500,000	14,400,000
Quincy	2,500,000	18,000,000
Osceola	2,500,000	9,700,000
Atlantic	1,000,000	1,720,000
Wolverine	1,500,000	2,940,000
Butte & Boston	2,500,000	17,800,000
Old Dominion	3,750,000	5,625,000
Centennial	3,000,000	3,560,000

Such valuations cannot be maintained for any length of time, and a collapse is sure to come, which will probably carry prices as much below the real value in some cases as they are now above it; in others they can hardly go below the real value, which is zero.

Take for example Old Dominion, selling at $5,625,000, while it is well known that several of its lower levels are barren, and it was considered to have been extremely well sold in 1897 for $1,000,000, and it certainly has decreased in value since. Butte & Boston was reported on early in 1897 by the company's engineer, Mr. C. W. Goodale ,who found tne value of the reserves of ore to be about $200,000, and Captain Couch was stated to have practically confirmed these figures. No one pretends that any very large amount of value has since been developed, but it is quoted now at $17,800,000. Boston & Montana is vastly over-valued at its present quotation. So we could go through the list and the net result would be that the stocks are all selling far beyond their intrinsic value, and that they are bound to have a heavy fall.

THE COMMERCIAL MOVEMENT OF SILVER.

The production of silver in the United States in 1898 was the largest ever reported in a single year, with one exception. The production all over the world was also large, and there was a commercial movement of the metal which, though somewhat less than that of 1897, still formed an important item of trade.

The imports and exports of the United States, as reported by the Treasury Department for the year, are given below. These reports make no distinction between silver as coin or bullion and silver contained in ores and base bullion, as was formerly done in the statements:

	1897.	1898.	Decrease.
United States exports	$58,661,292	$53,797,104	$4,864,188
" " imports	33,082,302	29,029,724	4,052,578
Excess exports	$25,578,990	$24,767,380	$811,610

The net exports in 1898, as shown in this table, represent at the average price of the year a total of 42,510,000 ounces of silver. The imports were chiefly of silver in ores and base bullion to be refined in the United States. This shows that our net imports were less by 21,550,000 ounces than the production for the year, and that that quantity must have been used in the arts or otherwise absorbed here.

London is the great silver market of the world, where every one goes to buy and almost every one to sell the white metal. The following table shows the imports and exports of silver for 1898 compared with 1897, the figures being given by the Board of Trade returns:

	Imports.		Exports.	
	1897.	1898.	1897.	1898.
United States	£10,087,740	£9,359,395	£16,446	£8,121
Canada	953	12,664	2,560	29,040
Mex. & S. Am.	1,849,182	1,681,768	20,929	21,830
Eu'p'n C'n'tries	5,858,260	3,377,165	10,953,399	8,852,723
Africa	124,737	110,614	184,592	535,342
Australasia	58,537	846,654	116,460	115,967
Brit. E. Indies	.....	219	6,643,194	5,139,178
China	10,800	22,000	540,203	809,957
Japan	2,320	565	40,000	150
Countries not specified	39,560	28,765	263,265	111,343
Totals	£18,032,089	£15,439,809	£18,780,988	£15,623,651

Of the imports shown in this table the United States continues to fur-

nish the largest share, its proportion of the total being 60.6 per cent. in 1898, as compared with 55.9 per cent. in 1897. The imports do not call for especial remark, with one exception. There was an extraordinary increase in the receipts from Australasia, which does not, however, indicate an increase of production there. It is rather a change of direction of the shipments and shows that the silver from the Broken Hill mines, which for several years past has been sold and shipped directly to China and India, was last year sent partly to Great Britain. This change very much more than offsets the increase in the shipments from London to China.

In the exports the most notable feature was the decrease in shipments to India. This was in part due to light exports of produce from India and in part to heavy purchases of railroad material and war supplies in London. The payments for these by the Indian Government made necessary the issue of an unusual amount of Council bills, which furnished exchange for commercial transactions, and thus reduced the amounts which had to be remitted in silver.

The decrease in shipments to European countries was chiefly in the exports to Russia. In 1897 that country took a large quantity of silver for its new coinage.

Taking the average price of silver for the year, we find that the countries usually classed as "The East"—India and its dependencies, the Straits Settlements, China and Japan—took from London in 1898 a total of 49,350,000 ounces of silver. In addition to this they received from the United States directly 12,990,000 ounces, and from Australia approximately 7,000,000 ounces. This makes a total of 67,340,000 ounces—a very respectable share of the world's production—absorbed by these countries, for they send out very little in return. As we have heretofore shown, India continues to take a very considerable quantity of silver, notwithstanding the cessation of coinage there, and apparently will continue to do it in spite of all discouragements.

The average price per ounce of silver during the year by months is shown in the following table. It must be understood that the New York quotations are always for fine silver, while the London quotations are for standard metal, which is .925 fine. Thus, exchange being even, a New York quotation of 60 cents is equivalent to 27¾ pence in London:

	London. Pence.	New York Cents.		London. Pence.	New York. Cents.
January	26.29	56.77	September	28.05	60.68
February	25.89	56.07	October	27.90	60.42
March	25.47	54.90	November	27.93	60.60
April	25.95	56.02	December	27.45	59.42
May	26.31	56.98			
June	27.09	58.61	Year 1898	26.76	58.26
July	27.32	59.06	" 1897	27.55	59.79
August	27.48	59.54	" 1896	30.67	67.06

The price fell gradually until March, when it took an upward turn and continued to rise, although very slowly, until it reached the highest point of the year in November, falling again at the close of the year. The fluctuations were not extreme. The difference between the highest and lowest monthly averages was 5.70 cents; in 1897 this difference was 10.60 cents, though in 1896 it was only 3.77 cents. The second half of the year showed the best prices, the averages by quarters being as follows in New York: First, 55.91; second, 57.20; third, 59.76; fourth, 60.15 cents. The December price was 2.65 cents above that of January and 4.52 cents above that of March, the lowest monthly average of the year.

While the maintenance of production at a high level served to prevent any considerable rise in prices, the demand was sufficient to prevent a fall, the two forces nearly balancing each other. There were no very serious disturbing influences at any time during the year.

Apart from the Eastern demand, the taking of silver during 1898 was very largely for use in the arts. France took some silver for coinage under the convention which authorized an addition to the silver in circulation throughout the Latin Monetary Union, but the purchases were so quietly made that they did not disturb the market. Russia was a small buyer only, having purchased the bulk of the metal needed for her new silver coinage in 1897.

In the spring the market was a little agitated by reports of large purchases on Spanish account, but it soon appeared that Spain was not able to pay for anything except in depreciated paper, and Spanish buying ceased to be regarded as of any importance.

There were two reasons why a very considerable quantity of silver should have been absorbed in the arts. Trade has been active over a large part of the world, money abundant and the ability to buy articles of luxury has consequently been greater than for several years past. Again, as it has been generally accepted that silver has settled down to a permanently lower level of price, and its manufactures have come within the means of a larger number of persons, there has been an increased disposition to buy solid silver ware for household purposes and for ornament. This has not interfered with the manufacture of silver plated articles seriously, however, since those wares are again distributed among a wider range of persons.

This demand for silver in the arts has in some measure compensated for the decreased use of the white metal in coinage and has doubtless served to maintain the price at its present level. There is every prospect that it will increase and will continue to absorb at least as large a proportion of the output of silver as it does at present unless there should be a very great and now unexpected increase in the production.

The white metal still possesses in the eyes of civilized people attractive qualities and beauty of appearance which will insure its general use for a long time.

It has been urged in some quarters that the continued large production of silver in a year when the price averaged below 60 cents is good evidence that the general cost of production is lower than ever. This does not necessarily follow, however, since so large a part of the output is made as a by-product in connection with lead, copper and other metals. That production would still go on, even if there should be a further fall in price, as long as the combined value of silver and the other metals was sufficient to pay a profit on the exploitation of the mines. Still, it is to be remarked that very few silver mines of any importance have been permanently closed, or are likely to be, under present conditions.

NEW PUBLICATIONS.

Kálkulos sobre las Kañerias de Agua. By A. E. Salazar. With diagrams and original tables. Santiago de Chile, 1898; Hume & Co. Pages, 246. Price, $2.50.

The author, who is professor of industrial physics in the University of Chile, asserts in his preface that it must be admitted, in a general way, that almost all the useful knowledge actually existing as to the flow of water in pipes, etc., is due to the early investigations in this field of hydro-mechanics. The present volume is an attempt to correlate the usual formulas and to simplify computations based on the theory of hydraulic head. It includes the discussion of conveyance of water and calculations of the power developed.

After an introductory chapter the author propounds a general equation for the movement of water in pipes of uniform section; makes a comparison of the working formulas most in use; defines the application of formulae to computations of discharge, quantity and pressure; gives calculations and problems relating to power, and discusses hydraulic motors.

The "reformed" spelling (adopted by some of the Latin-American countries in scientific literature) of the Spanish renders the book a little difficult to read for those not accustomed to the peculiarities of "k"s, "z"s and "s"s for "c"s, "z"s for "ci"s and "ti"s, "cs"s for "x"s, etc., and the use of words not found in the Castilian; but the new system is at least logical.

BOOKS RECEIVED.

In sending books for notice, will publishers, for their own sake and for that of book buyers, give the retail price? These notices do not supersede review on another page of the Journal.

"The Alluvial Deposits of Western Australia." By T. A. Rickard. Author's Edition. Pages, 48; illustrated.

"Report of the Commissioner of Internal Revenue, for the fiscal year ended June 30th, 1898. Washington, D. C.; Government Printing Office. Pages, 526.

"Field Columbian Museum. Annual Report of the Director to the Board of Trustees for the year 1897-98." Chicago, Ill.; published by the Museum. Pages, 84, with plates.

"Statistique de L'Industrie Minerale et des Appareils a Vapeur en France et en Algerie pour L'Annee 1897." Paris, France; National Printing Office. Pages, 262. Price, in New York, $3.50.

"Fifth Biennial Report of the Commissioner of Agriculture and Labor to the Governor of North Dakota, for the two years ending June 30th, 1898." Bismarck, N. D.; State Printers. Pages, 125; illustrated.

"The Transition Curve, by Offsets and by Deflective Angles." By C. L. Crandall. New York; John Wiley & Sons, and London; Chapman & Hall, Limited. Pages, 100; with diagrams and tables. Price, $1.50.

"Proceedings of the Twenty-fourth Annual Convention of the American Bankers' Association, held at Denver, Colo., August 23d ,24th and 25th, 1898." New York; Published by the Association. Pages, 266; with photographs.

CORRESPONDENCE.

We invite correspondence upon matters of interest to the industries of mining and metallurgy. Communications should invariably be accompanied with the name and address of the writer. Initials only will be published when so requested.

Letters should be addressed to the MANAGING EDITOR.

We do not hold ourselves responsible for the opinions expressed by correspondents.

Electrolytic Precipitation of Copper.

Sir: In the "Engineering and Mining Journal" of February 4th, in answer to a question as to the power used in precipitating copper electrolytically, it is stated that 210 ampere hours will precipitate 1 lb. of copper, if soluble anodes are used; and only half this amount if they are insoluble. Is there not some mistake about this statement? One ampere hour of current should precipitate 1.181 gms. copper with either soluble or insoluble anodes, the only difference in the two cases

being in the voltage required. With soluble anodes the voltage necessary would only be that required to overcome the resistance of the electrolyte and conductors, but with insoluble anodes there would be besides this, the E. M. F. necessary to decompose the cupric sulphate (121 V.); hence in the latter case the number of watt-hours would be increased but not the ampere hours. J. S. C. Wells.

Columbia University, N. Y., Feb. 7, 1899.

Mining Accidents in Colorado.

Sir: The Denver papers say that nowhere in the world outside of Colorado is there so many mine accidents. Having Commissioner Lee's report for 1897 handy, I made out the following table for comparison of accidents during 1897 and 1898:

Year.	Men Employed.	Accidents.	Non-fatal accidents per 1,000 men.	Fatal accidents per 1,000 men.	Total.
1897.....	29,215	279	5.79	3.76	9.55
1898.....	30,231	292	6.08	3.57	9.65

The inspectors issued 1,726 orders to mine managers in Colorado during the year 1897. Fall of rocks killed 23 and injured 43 in spite of the fact that inspectors gave 403 mine managers orders to timber the ground. Accidental discharge of blasting compounds killed 40 and injured 56. The inspectors gave 359 managers instructions upon how to handle explosives. Shaft and ladder accidents caused the death of 38 and injury to 33. The inspectors gave orders to mine managers to construct 23 shaft trap-doors; to divide 107 shafts and construct ladders; to repair 198 ladders and platforms; 15 orders to stop hoisting men on buckets, and 97 orders not to overload the buckets with men; 44 orders to place guard rails; 11 orders with reference to bulkheads or 495 orders to prevent men fom being injured by falling. With such an appalling array of statistics against mine management in Colorado, it appears to the writer that the field for the United Correspondence School is large in this State.

Benjamin Williams.

Cripple Creek, Colo., Feb. 2, 1899.

Correspondence Schools.

Sir—Correspondence instruction I have known about some time previous to your paper calling attention to the subject. I wrote for a catalogue to one school and received it; two days later I received a typewritten letter of two pages, which stated that all other schools were frauds, and if I did not believe it look up their rating. I did not look their rating up, but I concluded they were financially responsible and that was all. The United Correspondence Schools you mention in your issue of January 7th you have no doubt looked into, or you would not mention them in your paper, consequently I feel relieved to learn that correspondence instruction has not been combined into a trust.

Jenkin Jones.

Wilkesbarre, Pa., Jan. 15, 1899.

Sir—I have read in your issues of the "Engineering and Mining Journal" several communications in regard to correspondence schools. As a man who has been both short of time and money necessary for a technical education, and wishing to study upon certain lines, I took this means of completing an education. After several years of study, I can truly say it has given me great improvement, far surpassing my expectations.

Whatever is accomplished by this means of study depends almost entirely upon the student; the subject under study is arranged in a comprehensive form; one paper leading up to the next, the instructors simply laying down a line of study, correcting the errors, and explaining them. My advice to those who take up this form of study is, understand every principle explained, and your improvement is insured.

D. J. C.

Decatur, Ill., Jan. 31, 1899.

Sir: I note what you have said in recent issues about correspondence schools, and write for further information. I was fortunate enough to get a good common school education and have picked up a working knowledge of surveying and wood craft. I also know considerable about the practical side of mining. I want now to get such a knowledge of mineralogy as will enable me to tell what are the minerals I often see in the rocks, and what they may indicate about the chances of finding any kind of ore. I also want to get a good enough knowledge of assaying to enable me to tell in a rough way the value of any mineral deposit. Can I get this knowledge by correspondence? I am in the employ of a large iron mining company, and while I often have spare time for reading, it is impossible for me to leave my position to study at any college or mining school; but if the Correspondence School will do what I want, I propose to join it at once. L. D.

Ely, Minn., Jan. 15, 1899.

Sir: Noting that your recent editorial regarding correspondence schools has brought forth numerous inquiries, both in your columns and directly to us, we beg leave to take this method of answering the typical questions asked by your readers. If you will grant us the space to do so you will greatly oblige us and do many of your readers a service. In your issue of January 21st Mr. B. M. Thurston, of Chicago, asks a question which we meet more frequently, perhaps, than any other, namely, "Do you consider such a course a practical one for a person who has never taken up the studies? Would a graduate of a correspondence school be as well qualified to fill a position as a graduate of other mining schools?"

The first question is an easy one to answer. Absolutely no previous knowledge of the subject is necessary to enroll in any of our courses. The only knowledge which a man must posses in order to become one of our students is that of reading and writing English fairly well. All men who can do that we can teach with equal success.

It might be well to mention, at this point, that the relative ease with which a student masters the various subjects in his course does not at all affect the efficiency of our system. Each student is, virtually, a class by himself, and his tuition fee entitles him to instruction until he completes his course, no matter how long it may take him to do so. He studies when he has the time or inclination. In this way he is not kept back by students less intelligent than himself, nor hurried by those who can devote more time to their studies.

The second question of your correspondent is ably answered by A. W. ,of Salem, Va., in your issue of February 4th.

In reply to R. B., of Argentine, Kansas, we would say that our courses, and particularly our mining courses, have been prepared especially to meet the needs of men who are actively engaged in the particular work of their trade or profession. Although we do not permit students to select studies which they think should be taught in a certain department, our courses are so divided that each class can find a course suitable to its particular requirements, and the subjects taught in each course are such as will in the shortest time possible give the knowledge needed. Superfluous matter and complicated mathematics have been carefully eliminated from all of our instruction papers, and they contain all the essential points which those desiring to perfect themselves in some particular branch should know.

R. J. B., of Leadville, Colo., in the same issue, represents another type which has been greatly benefited by our schools. Undirected study at home by means of ordinary text books is entirely unsuited to the needs of those who wish to gain a knowledge of their business in a short time and at a low cost. The prices of text books, which would cover the ground occupied by any of our courses, would exceed, by far, the tuition fee for that course. Moreover, we supply the student not only with all the text books required, but also with instruction until he completes his course. Further, our text books, or instruction papers, have all been written especially for us, and the requirements of the system constantly kept in mind.

Ordinary text books, while they contain much that is useful, contain much superfluous matter, through which the reader must wade in order to gain the knowledge he is seeking, and in such a search much energy and patience is wasted. In our books such a condition has been avoided. The books are carefully graded—each leading up to the next. Our students receive the advice and guidance of experts, each in his line. Their long experience has taught them what subjects he should know and what should be omitted from his course. The fact that he is too old to go to college and has a living to make will not stand in his way if he avails himself of the advantages offered by this system. We will not only tell him what to study, but will give him the books from which to study, and help him to study them.

For some evidence of what we can do we would refer your readers to the letter of Mr. J. Jones, of Scranton, Pa., in the "Engineering and Mining Journal" of February 4th, who says: "A friend and myself are taking a course in mining—he in one school and I in the United Correspondence Schools. So far as we have gone the methods of the New York School and their papers seem to be more practical and hit the nail on the head squarely." Mr. Jones has been a student in our school for a sufficiently long time to be thoroughly competent to judge of the merits of our system.

In his letter appearing in the same issue of your "Journal," I. B. C., of Columbus, Ohio, referring to our courses, says he thinks managers ought to encourage their employees to take just such courses. We wish to say that the mine, as well as machine shop, managers of this country have taken great interest in the education of their men. They have encouraged them to study, and given exceptional opportunities to men who show enough interest in their work to study in their spare time. We are always willing to co-operate with managers in regard to the formation of classes of their employes.

In order to give your readers a practical demonstration of the benefits that may be derived by our students, we beg to offer the following suggestion: We will place a number of free scholarships at your disposal, which you can award to your readers in any manner you may desire. The recipients could be so chosen as to represent the typical classes of mine workers. Their progress could be noted by you; they could from time to time report their progress through this column. We leave the details of this matter to you. Some of your readers could perhaps suggest a method by which we can give a practical demnstration of the merits of our system.

We would be pleased to give your readers further details regarding our methods through your valuable "Journal," but knowing that we should not claim too much space, we refrain. We shall, however, be them pleased to communicate personally with and give them any additional information they may desire.

Any further suggestions in this matter will be greatly appreciated by us. The United Correspondence Schools,

F. W. Ewald, General Manager.

New York, Feb. 9, 1899.

GRAPHITE IN BOHEMIA.—In Southern Bohemia, near Schwartzbach and Murgan, deposits of pure graphite are found in the gneiss, accompanied by crystalline limestone. According to the "Society of Arts Journal," the mines and works of the former place are owned by Count Schwartzenburg, and those at the latter by the peasants; and these two deposits yield the purest graphite now available, that of Krummau being far inferior. When the mineral is not sufficiently pure to be sent away as natural graphite, it is ground in mills constantly traversed by a stream of water that takes up the powdered graphite, which is afterwards thrown down in the form of mud; and when the mud layer has attained a sufficient thickness, it is subjected to a pressure of six atmospheres (88 lbs. per square inch) in a filter press. The resulting cake, containing more than 20 per cent. of water, being then dried in a stove heated to 90° or 100° for 24 hours. Out of the 9,000 quintals (885 tons) of graphite which are turned out yearly on an average in Bohemia, two-thirds are exported; but it is only during the last few years that the production has been considerable. Out of the 12 graphite mines in Bohemia only the three named above are actively worked, occupying 728 hands.

SLATE IN THE SOUTH.

We understand that negotiations are in progress for developing some Georgia slate quarries, principally at Rockmart, in Polk County. The production of slate is to be increased, roofing plates and mill stock are to be manufactured, including marbleized mantels. The Rockmart slate is much like the Peach Bottom from Pennsylvania, and is well adapted for electrical purposes. From 1889 to 1893 Georgia did not produce more than 3,000 squares of roofing slate a year, but in 1894 the output increased to 5,000 squares. A year later it dropped to 2,500 squares, while in 1896 a gain was made to 5,697 squares. In 1897 nothing was produced, and in 1898 comparatively little, owing to lack of capital. Little other slate has been made during this time. The sale of all kinds of slate products from Georgia is to be pushed by agencies to be established in the South and Southwest. An export trade is also to be worked up by agents in Europe. A favorable feature in the Georgia slate industry is the good transportation facilities. Labor is also cheap in the South.

The Arkansas deposits are chiefly in Polk County, and vary in color. The Kansas City, Pittsburg & Gulf Railroad, traversing this region, is sending out specimens of the red, blue and green slate, and from appearances it resembles the product from Vermont and Pennsylvania. As the red slate was taken from the surface, it is not as bright in color as that from the Washington County belt in New York. Probably when the bed is worked to some depth it will be a brighter red slate. It is also said that this slate can be delivered to a purchaser in Chicago or St. Louis at $6 per square. This price is less than the quarry price of the New York red slate. Heretofore little quarrying for slate has been done in Arkansas.

For the past ten years the average annual production of roofing slate in the South was 55,602 squares, having an average value of $3.81 per square. Much the larger part of this production came from Virginia and Maryland. The greatest amount of roofing slate quarried in the South in one year was in 1894, when over 78,000 squares were taken out. The year 1896 showed the next largest output—74,900 squares. Since then the yearly production has diminished and prices have fallen.

The production of slate for other purposes came chiefly from Virginia and Maryland.

THE SCIO OIL-FIELD IN OHIO.

The latest oil-field to attract attention is in the neighborhood of Scio, in the Connotton Valley, in Ohio, and is an extension of the Berea field. The oil found at Scio does not differ much from that found in other Berea grit pools. In color it is dark green and its specific gravity is 43. It does not equal in quality some of the oils of Pennsylvania and West Virginia, although the difference is not great enough to make a distinction in the market price. The Tiona product is far superior, and that of the Milltown field, a few miles from Pittsburg, and the Gantz sand oil of Washington and Greene counties are much richer in by-products. At Moundsville, W. Va., is a little Berea grit development, and the oil shows 20° higher gravity than that found at Scio.

The Berea grit or rock formation in which the oil is found at Scio is about 35 ft. in thickness, and the richest pay is found midway between the top and the bottom. It lies 200 ft. lower from the surface than the Muddy Creek pool, in Butler County, the most northern Berea pool yet discovered. The deepest Berea grit field is the Ogden-Hendershot development, in Wood County, W. Va. This field not only had the largest daily production—3,000 barrels—for a given time, but is the largest in area. Active developments have been in progress for more than two years, and the producing territory extends northeast and southwest for a distance of nearly 8 miles, and has an average width of more than 3 miles. It is thought to be nearly or quite defined. Starting with the Muddy Creek pool, and on moving southwest to the Ogden-Hendershot pool, the most southern Berea grit development, the formation has a gradual dip and lies 2,200 ft. below the surface, or 1,000 ft. deeper than the same formation at Scio. The production of the wells in Wood County showed a higher average, but the difference in depth and increase in production as compared with Scio leaves the latter the more desirable territory to operate. The wells in Wood County have sufficient rock pressure to make them flow for a long time after they have been completed and shot, which materially reduces the expense of operating them. At Scio they must be shot and put to pumping before they give up their wealth.

An opinion formed from the staying qualities of the older wells and the thickness of the rock formation would lead to the conclusion that the Scio field will prove lasting territory. It is easy drilling from top to the bottom of the hole. The salt sand and Big Injun formations are found in regular order. Both are soft and loose and offer very little resistance to the drill.

PREPARATION OF METALLIC SILICIDES.

Mr. H. N. Warren, in the London "Chemical News," says that in order to prepare the various metallic silicides a quantity of graphitoidal silicon was obtained by fusing together, at a white heat, a mixture consisting of two parts of mineral cryolite and one of sodium silicate; when perfectly liquid, an ingot of aluminum, 2 lbs. in weight, was introduced into the mass, in order to set free the silicon. Reduction by this means always proceeds tranquilly, although attended with considerable rise in temperature, and in this respect differs greatly from when potassium silicofluoride is employed, the reaction in the latter instance often amounting to explosive violence, and resulting in a serious accident some four years previous, when operating upon a hundredweight of melted silicofluoride at the Liverpool Research Laboratory.

After fusion the silicon, if properly reduced, is found in the form of a perfectly spherical ingot, containing about 10 per cent. free aluminum; this is separated by digestion in hot HCl, pure graphitoidal silicon remaining, which, after drying, should be finely pulverized. Manganese silicide is readily produced by reducing any of the oxides of manganese, in contact with an excess of silicon at a full white heat, the regulus thus procured presenting itself in the form of a well-melted ingot, and possessing a full white metallic lustre. It is very brittle, and readily scratches glass, being soluble with difficulty in ordinary acids, but readily attacked by means of hydrofluoric; it contains on an average from 30 to 40 per cent. of silicon.

The chromium compound much resembles the manganese product, but is less readily attacked by reagents and somewhat less fusible, but at the same time possessing greater hardness.

For the preparation of the tungsten and molybdenum silicides a somewhat higher temperature is required, and the author recommends with confidence, in order to carry out the smelting operation, a small oxyhydrogen blast-furnace. An intimate mixture with either oxide of tungsten or molybdenum is next procured, and the furnace urged to its maximum heat for about 20 minutes, the mixture being lodged in a specially prepared crucible. If the operation has been satisfactorily conducted a well-melted ingot is obtained, containing upwards of 20 per cent. silicon, while in other cases, if the heat has been deficient, a metallic half-fused mass, containing various percentages of silicon, is the result. As regards their physical properties, the silicides of either tungsten or molybdenum appear to be highly crystalline and possessed of extreme hardness, some specimens even scratching rock crystals—comparatively speaking, the tungsten compound ranking as the hardest.

All are with difficulty acted upon by acids, except hydrofluoric acid, while at a red heat chlorine attacks all of them readily. No electrical furnaces are required.

MICROSTRUCTURE OF IRON-NICKEL ALLOYS.*

By F. Osmond.

With regard to their microstructure, forged alloys of iron and nickel (containing from 0 to 50 per cent. of nickel) may be divided into three groups:

1. When the metal does not contain above 8 per cent. of nickel or thereabout, the structure is similar to that of ordinary steels without nickel. The grains of iron, however, are, under the same conditions, of somewhat smaller dimensions, and show less tendency to grow under the influence of a high temperature, which fact imparts to the fractures of nickel steels their fibrous appearance.

2. The second group includes alloys containing from 12 to 25 per cent. of nickel. Their polished sections exhibit after etching, whatever the rate of cooling, rectilinear fibrous clusters frequently parallel to three principal directions (crystallites possibly derived from octahedrons). The carbon, at least when present in small or moderate proportions, does not form discernible segregated carbides. Such characteristics are, in a general way and with the exception of a few secondary differences, those of quenched carbon steels. This similarity renders marked the resemblance between the two classes of metals, which had already been noted through the study of some other properties of this group (hardness and magnetic polarity).

3. The third group includes the non-magnetic alloys containing about 25 per cent. of nickel† and those which resume their magnetic properties owing to the presence of an excess of nickel (30 to 50 per cent.), The etching methods (treatment with tincture of iodine or with nitric acid) usually applied to ordinary steels do not, in this case, yield good results. Dilute hydrochloric acid must be used, and the metal must be connected with the positive pole of a bichromate battery. The structure is exclusively crystalline, but as the crystals interfere with each other's growth, their form cannot be determined with certainty (they may possibly be "macled" octahedrons). The general appearance is not less characteristic.

Alloys of this group are, besides, riddled, after etching, with numerous minute cavities which are possibly enlarged porosities.

To sum up, the study of the microstructure of alloys of iron and nickel confirms the classification based on their mechanical properties as well as the parallel which had been drawn between these alloys on the one hand and quenched carbon steels and manganese steels (quenched or not) on the other. It affords additional evidence that the principal properties of steels are a function of the position of their points of transformation on the scale of temperature. Three distinct types are found according to the temperature of transformation, which may be, during cooling, above 400° C., between 350° and the ordinary temperature or below the latter.

Alloys of iron and nickel possess another interesting peculiarity; they become easily schistose under the influence of forging. I had already called attention to a similar phenomenon in the case of ordinary soft steels, but the latter are not homogeneous, and it is quite natural that their structural elements, which are unequally hard, should be unequally drawn out. In alloys of iron and nickel, the schistosity is superposed to the structures described above and, in the metals of the second and third groups, is completely independent of the structure, the lamination cutting across crystallites and crystals.

Such schistosity is revealed by all etching methods, giving rise to the formation of bands alternately more and less attacked, surrounding each other and making it possible to follow the distribution of the distortion produced by forging or rolling.

THE NICKEL-STEEL PATENTS.—The Secretary of the Navy has given public notice that the President has decided that the Secretary of the Treasury cannot pay to the firm of Schneider & Co. of Creusot, France, the sum of $50,000 in settlement of the claim of that company for the alleged infringement of their patents for producing nickel-steel armor, unless the parties who manufactured the armor for the Government—namely, the Carnegie Steel Company—agree to the compromise.

*"Comptes Rendus de l'Academie des Sciences," May 9th, 1898; translated for the "Metallographist," January, 1899.

†With the same proportion of nickel (24.80 per cent.) an alloy containing 0.16 per cent of carbon is magnetic at the ordinary temperature, while with 0.65 per cent. of carbon it is, under the same conditions of cooling, non-magnetic. According to the structure, the first of these alloys belongs to the second group, the second to the third.

ABSTRACTS OF OFFICIAL REPORTS.

Lehigh Valley Coal Company.

The report of this company, which owns a great coal estate and operates a number of collieries in the anthracite region in Pennsylvania, covers the year ending November 30th, 1898. The coal report shows that the output from collieries operated by the company itself and its tenants, and from collieries operated by tenants of land companies in which the Lehigh Valley Railroad Company is interested through ownership of stock, was as follows, in long tons:

	1896.	1897.	1898.
Lehigh Valley Coal Co.	2,819,757	2,613,726	2,609,126
Tenants of L. V. Coal Co.	1,492,156	1,139,003	1,113,448
Other tenants	786,278	631,714	703,565
Totals	5,098,191	4,384,443	4,426,139

The receipts and expenses for the year were as follows, the total earnings showing a decrease of $989,336 from 1897, and the expenses a decrease of $134,965:

Coal sales, anthracite		$16,332,681
Coal sales, bituminous		55,760
Interest, royalties, etc		278,086
Total receipts		$16,666,527
Mining coal and repairs	$3,964,825	
Coal purchased	5,682,952	
Coal purchased, bituminous	46,315	
Coal from stock	427,659	
Depreciation of stock	57,624	
Total mining	$10,173,375	
Transporting coal by rail	5,738,662	
Transporting coal by water	535,897	
Handling coal at depots	147,312	
Commissions	127,599	
Miscellaneous	363,390	
Total marketing	$6,912,861	
		17,086,236
Deficit on working		$419,709
Colliery improvements		700,649
Interest on Snow Shoe bonds		22,450
Total deficit		$1,142,808

The company has outstanding $16,637,000 bonds, the interest on which, at 5 per cent., amounts to $831,850; but this interest does not appear in the accounts.

From the statement above it appears that 59.5 per cent. of the expenses can be referred to the mining or purchase of coal and 40.5 per cent. to its transportation and sale.

The report says: "The tonnage for 1898, with the exception of that from North Franklin, amounting to 58,. 13 tons, was transported to market over the Lehigh Valley system. The capacity of the collieries operated by the Lehigh Valley Coal Company in 1898 averaged about 19,000 tons per day, but the changes and improvements which have been made during 1898, the results of some of which have not been felt as yet, together with those contemplated during the early part of 1899, will increase this amount by the time the busy season opens to about 22,500 tons per day. During the month of October the total shipments over the Lehigh Valley Railroad amounted to 969,530 tons of anthracite coal (exclusive of trackage coal, etc.), of which the Lehigh Valley Coal Company contributed 395,596 tons, or about 40.8 per cent., making it the largest single month's shipment in the history of both the railroad and coal company.

"The cost of mining at the collieries operated by the Lehigh Valley Coal Company, based upon shipments of all sizes, and including, in addition to the regular mining expenses, all charges to general expense, royalty, sinking fund insurance, taxes, depreciation and improvement account, was per ton for the years 1896, 1897 and 1898, respectively, $1.8994, $1.5522 and $1.7881. No allowance was made in cost of mining in 1897 for depreciation of the old improvement account.

"During the year 1898 there was expended at the anthracite mines $700,649 for colliery improvement work, by which is meant expenditures for dead work and facilities made (1) with a view to opening mining territory, and (2) for the purpose of effecting substantial savings in the cost of your future mining operations. All this expenditure has been charged directly to income. The cost of mining has also borne a depreciation charge of 5c. per ton, amounting to $130,456, which, together with the sum first mentioned, makes a total of $831,105 charged to cost of mining for the year on account of new work and for reduction of the old improvement account. This amount was, of course, abnormal, but it was nevertheless necessary last year in order to facilitate the purposes above indicated. The success of the Lehigh Valley properties, both railroad and coal, must largely depend upon economy of operation; therefore, the interests of all concerned will be promoted by reaching such economy as rapidly as it can consistently and judiciously be reached.

"With the uncertainties which at all times surround the anthracite trade, it is essential that the Lehigh Valley Coal Company shall be able to mine as cheaply as its competitors, otherwise, in times of keen competition, like the present, it must either do business at a loss, or withdraw from the coal business altogether. The present cost of mining by the Lehigh Valley Coal Company is too high, and reduction must come from concentration of work and in improvement of appliances for mining. This necessarily involves the systematic abandonment or alteration of much existing plant, including small 'breakers.' The replacement of the property so abandoned is a heavy drain on income, but other companies which have gone through the process are now deriving the benefits, and it is fully believed that a like result will attend the Lehigh Valley Coal Company in due time. In view of the large expenditures for colliery improvements during the last fiscal year, it is believed that a state of efficiency has been reached which will obviate the necessity for unduly large expenditures in the present fiscal year; their extent, thereafter, must depend upon circumstances not yet fully determined.

"Included in the cost of mining coal was the sum of $54,140 for account of the sinking fund under the terms of the mortgage of 1892. This amount has been paid to the trustees under the mortgage, for the purchase and cancellation of bonds. There were purchased during the year $100,000 par value of bonds, secured by mortgage on the Snow Shoe lands; and $25,000 was paid to the trustees under the same mortgage on account of sinking fund, leaving the principal of said mortgage outstanding at the close of the year $375,000."

BALANCING HOISTING ENGINES.*

Mr. Arthur Lindenberg, engineer of the Monopol Colliery, in Westphalia, Germany, has been studying for some time the different methods of counterbalancing hoisting engines.

At the Grillo pit of the colliery he has introduced a successful system of balancing the winding-engine though not the weight of the rope. The Grillo shaft is 476 m. in depth. The winding-drum is 8 m. in diameter, and 4 m. in breadth. The winding-ropes are round steel ropes 45 mm. in diameter. On the main drum is wound a lighter steel rope 19 mm. in diameter, the two ends of which, one at the top ,the other at the bottom of the shaft, are attached to a flat steel rope. At either end of this rope are guide blocks running in guides along the walls of the shaft outside of the cages, the rope passing underneath the cages in the sump. The weight of the flat rope is made equal to that of the large and small winding-ropes, so that the weight of the ropes is completely balanced. Thus, when the cage attached, say, to the lower winding-rope is at the shaft-bottom, and winding commences, all the weight of this lower winding-rope, together with that of the small rope, oppose the lift of the engine, while the entire weight of the flat balance-rope is acting with the engine; as the large and small winding-ropes are wound up less of the flat balance-rope is at liberty to resist the engine and the balance is perfect. This system was applied to an existing shaft, and works well, the speed of winding being 10 m. per second.

At the Grimberg pit of the same colliery, the weight of the rope is completely counterpoised; instead of the small ropes passing round the drum they pass over a pair of pulleys situated just above the winding-rope pulleys, and are attached to the cages. The weight of the flat balancing-rope must, therefore, be that of the winding-rope plus twice that of the small rope. In this arrangement, the weight of the winding-ropes is completely balanced, and in any position of the cages the winding-rope has only to support the weight of the cage less that of one small rope. The limiting condition is that the weight of each small rope must not exceed that of the empty cage.

The Grimberg shaft is 775 m. deep, the bottom flat-sheets being at a depth of 770 m., and the top ones at 7 m. above the ground, the centre of the winding-pulleys being 24 m. above the latter. The axis of the winding-drum is at a horizontal distance of 50 m. The diameter of the shaft is 5 m.; the guides are of wood, and the speed of winding is high, exceeding 10 m. per second. The winding-engine is a horizontal compound engine, taking steam at 105 to 120 lbs. The cylinders are 0.9 m. and 1.4 m. respectively in diameter, with a stroke of 2.2 m. The drum is 8 m. in diameter and 4 m. in breadth, and it can take 1,000 m. of round rope 35 mm. in diameter. In addition to the two winding-ropes, two small ropes and a balance-rope are required, but it would appear that the sum of the weights of all these ropes is less than that of an unbalanced winding-rope.

The main advantages are that the inertia of all the balancing-ropes is not transmitted to the drum, and thus does not affect the engine, which is easily handled. The winding-rope need only be strong enough to carry the full cage, and may be worked to any depth with a uniform section.

The result of the breakage of the small rope would be to throw much extra strain on the winding-rope, but should not break the latter, as it will always be well below its tensile strength; nevertheless, the small ropes will need careful looking after.

BRITISH COAL EXPORTS.—The exports of coal, coke, cinders and briquettes from the United Kingdom during 1898 reached a total of 36,546,152 tons, as compared with 37,096,918 tons in 1897 and 34,262,056 tons in 1896. The shipments of coal for the use of steamers engaged in foreign trade were, in 1898, 11,264,204 tons; in 1897, 10,455,758 tons, and in 1896, 9,937,305 tons.

COAL MINES IN VENEZUELA.—United States Minister Loomis transmits from Caracas, under date of January 14th, 1899, copy of a contract between the Government of Venezuela and the Italian firm of Lanzoni, Martini & Co., of Rome, providing for the working of the Guanta Coal Mine, near one of the best harbors of Venezuela. The coal from this mine, adds Mr. Loomis, was recently tested by an Italian man-of-war, and, if it possesses good gas or steam making qualities, the output will seriously affect the consumption of American and English coal, which at present are exclusively used in Venezuela. The contract provides for a yearly rental of 104,000 bolivars ($20,072) and a royalty of one-half bolivar (9.65c.) a ton on all coal taken out; also, that coal sold to the Government shall not be charged over 25 bolivars ($4.825) a ton. The lease is for 15 years, with an option for an extension of 10 years.

SLATE BLACKBOARDS.—Concerning the production of blackboards in Pennsylvania in 1898 the nearest estimate places the quantity at 1,250,000 sq. ft. There are a few shippers who claim to have sent forward more than this estimate credits them with, but their figures have not been substantiated. The output for 1897 was about 150,000 ft. higher, but the sales, which represent the product, have been gradually dwindling from 1,500,000 sq. ft. yearly to the present figure, and this is undoubtedly due to the low and unsteady prices. After several meetings the manufacturers at Slatington, Pa., and vicinity have now agreed to make the minimum prices to the leading dealers (the wholesale trade) 10, 11 and 12c. per sq. ft., subject to a revision prior to August 1st. This agreement was arrived at in the absence of something better, which it is hoped will be realized later in the season. These rates are practically the same as those prevailing last season. Some producers, however, hesitate to accept these rates.

*Proceedings of the Federated Institute of Mining Engineers of Great Britain.

A WASHINGTON COPPER DEPOSIT.

Written for the Engineering and Mining Journal by R. H. Norton.

The accompanying illustration represents a remarkable and large cropping of solid chalcopyrite ore, which came to my notice when Inspector of Coal Mines for the State of Washington, and I believe that a description will be of interest to the "Engineering and Mining Journal," especially now that the State of Washington is attracting wide attention owing to its fast developing mines. It seems to form a connecting link in the belt of gold-bearing copper ores which has been traced from a point on the coast 200 miles northwest of Vancouver, B. C., across the Skagit Valley, between Hamilton and Marble Mount, across the Stillaguamish, east and west of Silverton, through the Sultan Basin and Silver Creek, through the Index Range of Mountains, through the Miller River and Money Creek districts, across the Snoqualmie. Comprised in this ore belt is the newly discovered Dutch Miller Mine, which is said to show the occurrence of an 18½ ft. vein carrying an average of 17 per cent. copper, besides an additional value of about $10 in precious metals per ton.

A brief history of the discovery and situation of this remarkable lode and of the yet unknown district is as follows: For generations

VIEW AT DUTCH MILLER COPPER MINE, KING COUNTY, WASHINGTON.

Indians kept the knowledge of its existence a tribal secret, the surface ore exposure being so extensive as to attract the attention of the natives. Their knowledge of white miners' ways in destroying game and disturbing their hunting regions was reason sufficient for their silence. The bright yellow color of the chalcopyrite at last caused the younger members of the tribe of Kittitas, who came more in contact with civilization, to show some specimens to a white man for his opinion, with the result that the Indian was prevailed upon to visit the place in company with the white trapper, and later brought the discovery to the attention of progressive men, who at once addressed their attention to the problem of ore transportation and smelting as a natural accessory to an ore deposit susceptible of immediate working on a large scale. The mine is situated in King County, Washington, on the west side of and near the main divide of the Cascade Range, between Skykomish and the middle fork of Snoqualmie River, at an elevation of a little less than 5,700 ft. It is distant from Puget Sound about 75 miles, the topography affording choice of outlet in three directions. The one presenting the shortest route will connect with the Great Northern Railway and is only 8 miles long, besides being in the direction of the projected deep tunnel site. The precipitous descent requires a 2½ mile cable tramway system to reach a railroad grade. This northern outlet affords, from the level of the tunnel sites, abundant timber, water-power and easy grading throughout the course; the dense timber growth is the main obstacle.

The western outlet shortens materially the cable line, but connects by a considerable longer distance with the branch of the Seattle International Railway at Sallal. The same timber conditions prevail and the grades compare favorably.

The only approach from the eastern side is through a pass in the main range near the mine and 100 ft. less in altitude; the descent is quite abrupt, yet not so precipitous as the northern approach. A railroad grade is attained within 2½ miles.

To reach the Northern Pacific Railway at Ronald will require 27 miles of track, following the shore of Wapatos Lake and the Cle-Elum River valley.

The accompanying illustration shows the ore plainly, and the surface workings of the mine, with the immense ore cropping. An average analysis made at the Everett Smelter determined the value of the ore, without sorting for the full width, as follows: Copper, 17.8 per cent.; silver, 12.19 oz.; gold, 0.1 oz. to the ton.

This mining section is in its infancy, and consequently affords much to interest mining men and investors; many good properties remain in the hands of original discoverers. With the limited capital usual in new communities, some excellent showings will be retarded in their development until facilities for shipping are obtained. It appears that Seattle and King County have not yet awakened to the importance of this district enough to have the county roads or trail extended to reach this promising field, but Kittitas County, which adjoins this district on the east side, is taking the initiative, and has lately surveyed, approved and partly built the last 10 miles of wagon road to the foot of the Cascade Range, with the intention of applying to the next State Legislature to build a wagon road or trail across the main range into King County, connecting with either the Great Northern Railway, 4 miles east of the Skykomish, or following the east fork of the Snoqualmie River to Sallal.

The present manager and principal owner of this property, Mr. H. P. Fogh, of Roslyn, Wash., has purchased the Fortune Creek Smelter, with the intention of placing it on Wapatos Lake, unless the King County and Skykomish road should be built, in which event Skykomish would afford the best situation for the smelter.

The illustration is of especial interest as an example of the way in which a photograph can, to some extent, be converted into a working drawing. The figures and letters can be marked on the negative, and will, of course, show in the print. Where it is desirable to have some views unmarked, it is not usually a difficult matter to take two negatives, one of which can be marked. Such dimensions, etc., as are shown in this photograph add much to the interest and value of the illustration.

BLAST FURNACES IN GREAT BRITAIN.—The number of furnaces in blast in the United Kingdom at the end of 1898 was 399, compared with 386 on September 30th, 379 on June 30th, 382 on March 31st, and 382 on December 31st, 1897.

GEOLOGY OF THE MICA DEPOSITS OF THE UNITED STATES.*

By J. A. Holmes.

The commercially valuable deposits of mica in the United States, though widely separated, are limited to a few districts. They have been worked to some extent along the Appalachian system of mountains in New Hampshire, Virginia, North Carolina, the Black Hills region of South Dakota, the Cribbensville District in Northern New Mexico and in Western Idaho. Additional deposits of promise have been found and developed on a small scale in the Appalachian region in Maine, South Carolina, Georgia and Alabama, California, Nevada and Wyoming. Regarding the geologic occurrence of these particular deposits of mica it may be said that they are all found in pegmatite veins or dikes, and that these pegmatite dikes occur in gneissic and granitic rocks, which are usually classed as Archean in age. The dikes yielding the best and largest quantities of mica are found in the hornblendic and micaceous gneiss and schists in places parallel to but generally cutting across the schistosity of these rocks at varying angles.

Pegmatite dikes, as is well known, vary in thickness from a few inches to more than 250 ft., and can be traced for a distance varying from a few feet in the smaller ones to several miles in some of the larger ones. In some cases, furthermore, they are quite irregular, and have arms branching out in almost every direction. Many of the dikes are vertical, some are nearly horizontal and still others vary very greatly.

In character the pegmatite has been called a very coarse granite, consisting mainly of quartz and feldspar in equal or variable proportions and muscovite mica. In some places the quartz and feldspar will be somewhat uniformly distributed throughout the pegmatite mass, while in others the two will be pretty well separated, the feldspar sometimes crystallizing out into masses more than a ton in weight. In addition to these three common minerals there occur many other minerals with varying degrees of rarity. Twenty or more of these accessory species are sometimes observed in a single dike in some regions, while the dikes in other regions are almost destitute of them. As a rule, crystals or "books" of commercial mica need not be looked for in dikes or veins which are less than 2 ft. in diameter, although there have been instances in which these books 2 by 2½ ft. in dimensions have been found in dikes the width of which was scarcely more than 2 ft. On the other hand, some of the largest dikes contain no mica whatever of commercial size.

As to the distribution of this mica in the dike, it may be said that generally the books or crystals are scattered promiscuously through the matrix of quartz and feldspar and a large amount of useless material has to be blasted down and removed from the mine in order to secure the commercial product; in some cases, however, the books of mica occur in the outer part of the dike near the wall rock, and then the mica lead can be more easily followed. In some instances the mica constitutes as much as 10 per cent. of the total mass of the dike, but usually it proves to be less than 1 per cent. of the total. Of the mica taken from the dike in ordinary mining operations, usually less than 10 per cent. and sometimes less than 2 per cent. has a commercial value as sheet mica, the remainder being thrown away or pulverized.

The geologic age of these pegmatite dikes may be said to vary considerably. In crystalline rocks exposed in the lower part of the Grand Canyon of the Colorado in Northern New Mexico the dikes break through in the granitic rocks, but come unconformably against the base of the Algonkian series there, and are consequently pre-Algonkian in age. All of the larger dikes observed in the Rocky Mountain region have been to a greater or less degree involved in the schistosity and other structural modifications of the crystalline rocks, and consequently must have been formed either prior to or during the earlier stages of the uplift of these mountains. In the Appalachian region these dikes are not, in most cases, involved in the schistose structures of the rocks, though in some cases they have undergone considerable changes in connection with the production of the schistosity. The condition of the material in the dikes seems to indicate that they were formed either prior to or during the early stages of the uplift of these mountains, since sometimes they are involved in folds quite similar in character to those typical of the Appalachian structure.

Occasionally the sheets of mica themselves have been folded under pressure, but as a rule they show no such disturbance, having been, like the coarse feldspar and quartz of the dike, but little modified in connection with the mountain uplifting. These blocks of mica, however, often have their commercial value in large measure destroyed by the production of what is called "rolled" or "ribbon" mica, the sheets of mica being cut into narrow strips with parallel edges. These edges of the rolled mica appear in all cases to be parallel to certain axes of crystallization, but the cause of the rolling and the conditions under which it has been produced are not well understood.

*Abstract of a paper presented at the eleventh annual meeting of the Geological Society of America.

DETERMINATION OF MOLYBDENUM.—H. Borntraeger, in the "Zeitschift fur Analytische Chemie," No. 37 of 1898, page 438, says that as a rule the methods in use aim at the estimation of the total, rather than of the technically available molybdenum. The latter desideratum the author claims to be satisfactorily met by the following process: 1 grm. of the ore is digested for two hours with 25 c.c. of strong nitric acid, in an Erlenmeyer flask. The molybdic acid formed is then dissolved in ammonia, the solution filtered, and the residue again treated with nitric acid and ammonia. The combined filtrates are acidified with nitric acid, and evaporated to dryness. From the residue, consisting of ammonium nitrate and molybdic acid, the former is dissolved by digestion with 50 per cent. alcohol; the latter collected on a tarred paper and weighed, or, better still, dissolved in normal ammonia and estimated by titration.

THE INDUSTRIES OF THE APPALACHIAN REGION.

Written for the Engineering and Mining Journal by William Metcalf.

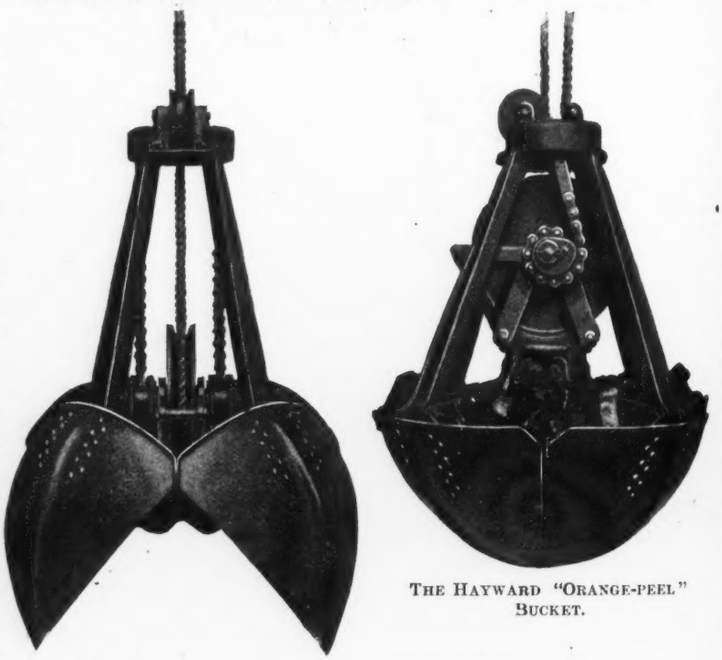
The Appalachian Region in the United States is generally supposed to be a range or ranges of mountains extending from Northeastern Pennsylvania southwest into Northwestern Georgia and Northeastern Alabama.

That is its backbone, its body embracing all of the country east to the Atlantic Ocean, south to the Gulf of Mexico and west to the Mississippi, and a tributary territory of the southern watershed of the Great Lakes. On the eastern side we have the anthracite deposits of Pennsylvania, the iron ore deposits of New Jersey, and the Cornwall ores of Lebanon, Pa. Next the iron ores of Virginia, and in North Carolina beds of the purest iron ores in the world, notably those of Gaston County, and the Cranberry mines.

On the Allegheny Mountains, in all of the western foothills, from well north in Pennsylvania to Alabama, there are almost continuous veins of the best bituminous coal in the world. This coal underlies Ohio, Indiana and Illinois and large parts of Kentucky and Tennessee.

Nearly every valley and hill on the eastern slope in Pennsylvania has deposits of brown hematite ore, In all this great mountain range there is scarcely as much as a thousand acres of land that is not at least forest-bearing, and the larger part of it is fine farming land. On the east and south the Atlantic and the Gulf ports furnish ample facilities for the ready distribution of products, and in the west some 10,000 miles of navigable rivers, ending at the mouth of the Mississippi, supply ready means of cheap transportation.

To the union of abundant, cheap fuel, agricultural wealth and easy transportation is due the fact that good coal is laid down in the mills for $1 to $1.10 a ton; Bessemer pig iron is cheaper than in any other country, and Alabama pig iron cheaper still.



THE HAYWARD "ORANGE-PEEL" BUCKET.

Rails, plates, beams, bars, all of good quality, are very close to 1 cent a pound, and export to Europe is possible.

There is no other such region in the known world, and yet we have hardly made a beginning. In 1897 the Appalachian Region furnished two-thirds of our pig iron, three-fifths of our steel and finished iron products, and by far the larger proportion of our coal.

Long before another century passes the Appalachian Region will be the workshop of the world.

ELECTROLYTIC ALKALI WORKS IN 1898.

Mr. John B. C. Kershaw, in the London "Electrical Review," says that one new electrolytic alkali process has been brought forward in the year 1898. The Salt Union is experimenting at Winsford with this new process, the invention of Mr. James Greenwood, but no details are yet available for publication. The Rhodin cell has been declared an infringement of the Kellner patents, and has retired again into private life. With regard to the three English processes, the Castner-Kellner is developing most rapidly, and the works, as originally designed for 4,000 H.P., are now nearly completed. The Richardson & Holland process at St. Helens is not such a success as the promoters hoped, and it is rumored that the fresh capital now being raised is to be expended upon Le Blanc plant. The Hargreaves-Bird process is still working satisfactorily upon a small scale at Farnworth. The company which is being promoted to work this process upon a large scale in Cheshire has not yet been floated. Judging from the advance prospectus, and from knowledge of the experimental trials at Farnworth, the Hargreaves-Bird Electrolytic Alkali Company should prove a financial success. The Hulin process is now in operation at Clavaux, Savoy. At St. Gobain, near Paris, the Hargreaves-Bird process is in operation. Most of the remaining works abroad use either the process of the Elektron Company, first operated at Greisheim, near Frankfort, or that of the

Bitterfeld Elektrochemische Werke; but neither of these companies is willing to give any details of their methods. A large number of subsidary companies are being promoted by these two firms, between whom some form of amalgamation has been arranged; and during the year 1898 the writer has taken note of six new electrolytic alkali companies, and twelve new electrolytic alkali works, chiefly developments of the operations of the Greisheim and Bitterfeld companies. Certain of these new works are already working; the remainder will probably be completed during the present year.

No correct estimate of the total output of the electrolytic alkali works is yet possible. The Castner-Kellner Works at Weston Point are now producing about 2,500 tons caustic alkali, and 5,500 tons bleach per year, and will double this output when the works is completed. The Elektrochemische Werke of Bitterfeld inform the writer that at their two works they now produce 14,000 tons bleach per annum. Borchers, in 1897, estimated that the German Electrolytic Alkali Works were decomposing between 15,000 and 20,000 tons potassium chloride per annum; and this total will probably be exceeded during the present year. It is very significant of the progress that has been made in electrolytic bleach manufacture in Germany that, whereas that country formerly imported practically the whole of her requirements, she now covers these by her home production, and in 1897 exported over 13,000 tons.

The following list of places where electrolytic alkali works are in operation is believed to be correct:

Runcorn, St. Helens, Farnworth, Greisheim, Bitterfeld (2), Rheinfelden, Westeregeln, Ludwigshafen, St. Gobain, Hallein, Saltville, Niagara and Rumford Falls; total, 14.

Works are being constructed and will be in operation in 1899 at the following localities:

Osternienberg, Geneva, Zombkowie, Clavaux, Montiers, Giffre, Livet; also one each at unnamed places on the Ebro in Spain, in Poland, in France, and in America; total, 11.

ENGLISH PATENTS IN 1898.—During the year the total number of applications for all patents was approximately 27,639, as against 30,958 in 1897, and 30,193 in 1896. Of the letters patent granted by the British Government in 1898 we note the following: Chemical processes, 490, and apparatus, 133; electro-chemical processes, 50, and apparatus, 30; sewage, 46; oils and fats, 32; explosives, 19; paints and pigments, 20; soap, 23; general hygiene and smoke prevention, 12 each; artificial fuel, 10; artificial manures, 8; boiler disincrustants, 6; artificial stone, 3.

MEASUREMENT OF WATER IN MONTANA.—The Montana Legislature has now under consideration a bill which is favored by the Montana Society of Engineers for establishing a standard of measurement for water, defining the equivalent of a miners' inch and repealing all conflicting laws. The text of the bill is as follows:

"Section 1. Hereafter a cubic foot of water (7.48 gallons) per second of time shall be the legal standard for the measurement of water in this State.

"Section 2. Where water rights expressed in miners' inches have been granted 100 miners' inches shall be considered equivalent to a flow of 2½ cubic feet (18.7 gallons) per second; 200 miners' inches shall be considered equivalent to a flow of 5 cubic feet (37.4 gallons) per second, and this proportion shall be observed in determining the equivalent flow represented by any number of miners' inches.

"Section 3. Section 1893, Title VIII., Part IV., Division II. of the Civil Code of the State of Montana, and any laws in conflict with this act are hereby repealed."

A MONTANA PLACER MINING PLANT.

A new and interesting placer mining plant is now in operation near Virginia City, Mont., at the mouth of Alder Gulch. It is owned by the Conrey Placer Mining Company. This plant comprises two excavators, which dig the material and deliver it into a hopper, about 30 ft. above the ground. From the hopper the material is washed by a 10-in. stream of water, thrown on it by a centrifugal pump over a grizzly, where the larger rocks and boulders are separated from the finer material, which latter drops about 5 ft. into the flume or sluice. This sluice is about 200 ft. long and has a grade of 5 per cent. It is lined the entire length with cross riffles, which catch the gold as the water washes the material over them, the bulk of the gravel and sand being carried off, leaving the gold in the sluice. The gold is gathered by amalgamation with mercury, which is thrown into the sluice boxes at frequent intervals; the mercury also sinks into the spaces between the riffles. The amalgam is gathered about once a week, retorted, the gold saved, and the mercurial vapor condensed under water to be used again by the familiar method. The waste material at the lower end of the sluice is spoiled as convenient. The entire hopper and sluice being mounted on wheels, it is easily moved when necessary, in order to follow the progress of the excavators.

With this plant the cost of handling the material has been reduced to a minimum, so that it may be profitably used to work old tailings or ground containing values so low as to be unworkable by the ordinary methods of placer mining. The most expensive part of the work, the digging of the gravel and delivering it in the hopper is simplified by the use of the excavators.

These excavators, as is shown by the accompanying illustration, are

HAYWARD EXCAVATOR AT ALDER GULCH PLACERS, MONTANA.

mounted on skids or runners, moving over ties of 10 by 10 in. timbers, laid on the ground at right angles with the skids. These skids carry the platform of the machine, which is 24 ft. wide by 50 ft. long. Four feet from the end of the platform the A frame, which supports the boom, is placed. It is 36 ft. high and 40 ft. on the base. The boom is 80 ft. long, and has a working radius of 70 ft. through about 150°. The swinging of the boom and operating of the bucket are automatic and controlled by one man located in the lever house. This rig is not new, being used largely upon land excavating machines, but its application to placer mining is new and interesting and has been productive of excellent results in this instance.

The Hayward patent "orange peel" bucket of two cubic yards capacity is used. The bowl of this bucket is divided into four sections, or blades, thus making four penetrating points. These are shod with cast-steel points. This bucket is found to fill itself and operate successfully wherever the nature of the material and its hardness will permit of the use of a self-filling excavator. The bucket is operated by two chains. They are arranged to lead directly to the friction drums, which are abreast on one shaft, 10 ft. apart, center to center. The engine, of which the drums are a part, has double cylinders, 10 by 12 in., and is provided with counter-shaft and winch heads, by means of which the machine is moved upon the skids as work progresses.

In the accompanying illustrations the larger view is from a photograph of the excavator at work. The smaller cut shows the construction and working of the bucket. The machine is made by the Hayward Company, of New York, and the special form of bucket is introduced by this company.

ENGLISH SALT TRADE IN 1898.—There were shipped from the Cheshire District during 1898 559,742 tons of white salt and 48,178 tons rock salt, making a total of 607,920 tons, showing a slight increase over 1897.

BRITISH COLUMBIA.—XVI.
THE WEST COAST OF VANCOUVER ISLAND.

Special Report of W. M. Brewer, Traveling Correspondent.

Previous to 1896 practically nothing was known of the mineral resources of the west coast of Vancouver Island, except along the Alberni Canal. A few placer miners, chiefly Chinamen, had been sluicing the gravel of Bear River, which empties into Bedwell Sound, for some years past, but had paid no attention whatever to prospecting for quartz or sulphide ores. However, after the heavy iron ore outcroppings in the Kootenays had attracted attention and development had determined that the sulphide ores found below the zone of oxidation were permanent bodies, having sufficient value and extent to warrant mining operations on a large scale, prospectors commenced exploiting the shores of the various inlets and adjacent mountains on Vancouver Island.

Outcroppings of gossan and magnetite were found to occur, both at the contact between the limestones and igneous rocks, as well as along the strike of fissures in the latter. These igneous rocks, which the writer has found to be usually diorite or porphyrite, occur as dikes, apparently resulting from eruptions of a more recent period than that to which the limestones belong. The sulphide ore below these outcroppings proved to be chalcopyrites, iron-pyrites, or pyrrhotite, carrying high values in copper and usually some value in gold and silver. These discoveries resulted in the usual stampedes which are common to communities largely made up of mining men. Consequently, during the season of 1897-98 several prospectors went up the coast and numerous claims were staked and recorded within easy access of deep salt water wharf sites on the sounds and inlets. Most of these prospectors actually performed a larger amount of work than was needed for assessment, and some mined a sufficient quantity of ore to make small shipments to the Tacoma Smelter, in the State of Washington. Being so close to salt water transportation rendered the districts along the west coast particularly attractive to prospectors and operators with limited capital, because the ore could be shipped at such a low rate of freight, and the returns furnished money to carry on further development.

The writer recently visited the camps in the vicinity of Bedwell and Clayoquot sounds, and Tofino Inlet. He found the most extensive development work had been done on Bear and Trout rivers, on Deer Creek and on the Iron Cap mineral claim, a few miles from Clayoquot and on Mare's Island, in Clayoquot Sound.

The settlements in this section of Vancouver Island consist of the post office, hotel and Provincial police station on Stubbs' Island; the mining recorder's office, store and hotel on another island about one mile distant, and the Indian village on Mare's Island close by.

The pioneers among the prospectors had no easy task to reach the interior from the inlets and penetrate even a short distance, because of the dense growth of forest trees and underbrush which made traveling, even on foot, very difficult. The mountain summits rarely have elevations exceeding 3,000 ft. above sea level.

Apparently there are two distinct mineral zones paralleling each other and following the trend of the mountain ranges in a northwesterly course, but the lines of strike of the ore bodies usually trend to the north, or northeast; some, however, have the same course as the mountain ranges. The more westerly of these two mineral zones occurs only a short distance from the coast, and apparently can be traced by the occurrences of outcrops and ore bodies from the San Juan and Gordon rivers, in the southwestern portion of the island, thence following near the coast line across Nitinat Lake, through the islands near the mouth of Alberni Canal, and in Barclay Sound, thence across Kennedy Lake and through some of the islands in Clayoquot Sound. The second zone is apparently the northwestern continuation of that which crosses the Alberni Canal, some 12 or 14 miles above its mouth and thence crosses Anderson Lake, Elk River, Deer Creek and Bear River, the occurrences of mineral being located from 20 to 30 miles easterly from the coast. As the interior of the island eastward from this zone has never been explored north of the Alberni Canal, nothing definite is known relative to the geology or occurrence of minera's. The probabilities are, however, that the coal measures and sandstones will be found to occupy most, if not all, of the island to the eastward. The country adjacent to Quatsino Sound, the writer is reliably informed, is principally made up of these formations, which are also found through the eastern portion of the island, and to the southeast of Quatsino Sound, which is on the northwest coast.

A belt of granite occurs between the two mineral zones referred to, but the country rock through the easterly zone is limestone, with dikes of igneous rocks, chiefly diorite and porphyrite, occurring as intrusions. As the writer did not examine any of the reported occurences of mineral on the westerly zone, he is not prepared to give any description of the country rock or prospects which have been discovered in that zone.

Up to the present time the discoveries made in the easterly zone are located within a few miles of the mouth of Bear River and Deer Creek, the former emptying into Bedwell Sound and the latter into Tofino Inlet. The reason that such a limited area has been prospected is because of the difficulty of penetrating into the mountains and forests intervening between these streams. The cost of building roads and tramways for the transportation of ore to the coast has also deterred prospectors.

Judging from surface indications and the exposures following shallow work, it would appear that the ore bodies occurring along the lines of fracture in the igneous rocks will prove to be more permanent than those which occur at the contact of the limestones and igneous rocks. Sufficient work, though, has not yet been done anywhere in the Clayoquot District to warrant the expression of any unqualified opinion on this subject. The fact that at a few locations deeper work has resulted unsatisfactorily should not create prejudice against the district, because the writer himself saw some of this work, and certainly the outcroppings did not justify any great expenditure. But on other prospects visited, especially where the ore bodies occur along the fissures in the igneous rocks, the outcrops appear to be very persistent, and can be followed for several hundred feet. These ore bodies have only the one wall, usually foot, peculiar to the mines in the Rossland District. The country rock is impregnated with ore for varying thicknesses toward what should be the hanging wall side. The ore is usually solid sulphide, composed chiefly of chalcoprite and iron pyrite. Some of this yields as high as 32 per cent. metallic copper by assay, with traces of gold and silver. Average samples from outcrops taken by tne writer varied in value by assay from 4 up to 10 per cent. metallic copper, while one average from a dump consisting of about 30 tons taken at the same time yielded 13.92 per cent. metallic copper.

On Bear River quartz veins of inconsiderable thickness, carrying gold values, occur in close association with the sulphide ores, but usually the trend of these stringers is nearly at right angles to the other ore bodies. Such may, if they intersect the bodies of sulphide ore, affect their values at the point of intersection, but beyond this consideration the writer is of opinion that they have practically no value, because of the inconsiderable thickness, which would necessitate the mining of too much barren material.

A few miles above the mouth of Bear River, where placer mining had been carried on in years gone by, there have recently been discovered bodies of gold-bearing quartz. The samples shown the writer were evidently from near the outcrop and are apparently free milling in character. But with regard to their occurrence, structure, extent, permanency or grade he can express no opinion, as he did not visit any of the prospects.

A second shipment of copper ore has been made from Hayes' Landing, on Alberni Canal, from the Hayes Mine, located about 2½ miles from the landing. Work has been in progress on this group since last spring. It is owned by a Portland, Ore., syndicate, and it is expected that regular shipments will be made in future. The ore is said to yield about 18 per cent. copper and small gold values. The future operations are being anxiously watched by mining men on the island.

RECENT DECISIONS AFFECTING THE MINING INDUSTRY.

Specially Reported for the Engineering and Mining Journal.

LEGALITY OF CONTRACT PENDING LITIGATION.—Neither the statute nor public policy renders invalid a contract made in settlement of litigation over a disputed boundary between mining claims, by which one of the claimants binds himself, on obtaining title from the United States, to convey the portion in dispute to the other.—St. Louis Mining & Milling Company vs. Montana Mining Company (19 Supreme Court Reporter, 61), Supreme Court of the United States.

WHAT DISCOVERY SHAFT MUST CONTAIN.—A valid location of a mining claim must show in the discovery shaft a vein or lode of valuable rock in place. A location is not valid beyond the limits of the lode on which the discovery is based. If a miner, after sinking a shaft, fails to find a lode, and then sinks another shaft, in which he does find one, he may make the latter his discovery shaft, on which location may be based. —Terrible Mining Company vs. Argentine Mining Company (89 Federal Reporter, 583), United States Circuit Court.

EFFECT OF CONVEYANCE OF MINING INTEREST.—One who conveys his interest in a mining claim to another in consideration of the latter taking charge of the property and paying him one-half of the proceeds arising from working the mine, or a sale of such mine, retains no equitable title in the mine. And an agreement to convey an interest in a mining claim or a declaration of trust, not in writing, after its location, cannot be enforced.—Reagan vs. McKibben (76 Northwestern Reporter, 943), Supreme Court of South Dakota.

EFFECT OF MORTGAGE BY CO-TENANTS.—Where two or three owners of a mine, claiming, with color of justification under the judicial decisions, to have succeeded to the interest of their co-tenant, engage in working the mine, and in the ordinary course of business, and in good faith, execute a mortgage on the entire property, their co-tenant, who afterwards established his right to a one-third interest in the mine, cannot, as against the mortgagee, claim a lien on the ore produced during a receivership for his share of past profits due from his co-tenants.

Under the mining laws of Idaho relating to mining partnerships, where part owners of a mine, claiming to own the entire interest, without consent of their co-tenant, engage in working the mine, a mining partnership does not exist between them and their co-tenant.—First National Bank vs. G. V. B. Mining Company (89 Federal Reporter, 449), United States Circuit Court.

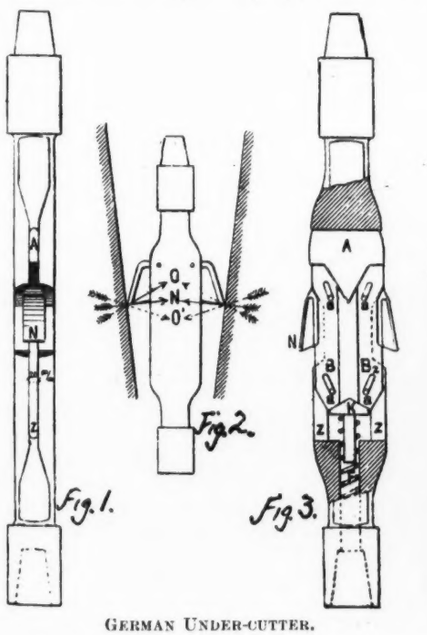
WHEN TRESPASS BY MINING COMPANY WILL NOT BE ENJOINED.—A mining company owned a valuable mining property, and water to supply it at a considerable distance. Another company owned a strip of barren, rocky, worthless, uncultivated, unused land, on a mountain side, between the water rights and mine of the former. The former dug a trench and inserted in same a pipe line under the surface of the other's land from its water supply to its mine, but without removing the soil it had loosened. It appeared that in laying the pipe line had caused the other owner only nominal damages; that to restrain the laying of such pipe line would destroy a large industry and work irreparable injury to the one without any special benefit to the other; that the property trespassed upon had no peculiar value and was not irreparably injured; and that the injury, if any, could be compensated by an action at law. The court denied the injunction.—Crescent Mining Company vs. Silver King Mining Company (54 Pacific Reporter, 244); Supreme Court of Utah.

A GERMAN UNDER-CUTTER FOR COAL MINES.

The accompanying illustration shows an under-reamer for coal recently devised by Messrs. Wolski and Odrzywolski, and described in the "Oesterreichische Zeitschrift fur Berg und Huetten-Wesen." It is claimed that it meets many objections made to other types of cutters used for the same purpose. The new tool consists of a main body of wrought iron fitted at one end with a conical screw pin and at the other with a socket, for attachment to the rods and sinker respectively. In the middle of the tool body is provided a groove which contains the mechanism for moving and retaining the cutting checks, N N, which are of best steel, each wrought in one piece. The motion of these checks to bring them into action differs from that of the usual types, being rectangular, at an acute angle to the axis of the tool body, and controlled by the pins, a a a, and grooves in B B. The wedge, K, which is acted on by the spring, F, presses the checks upward and outward until they rest against the steel abutment, A, the surfaces of which are at right angles to the tool body and constitute a support for the cutting cheeks while at work. It is thus evident that the parts, B, B, and checks, N, N, are accurately guided and held by the pins, a, a, the sloping surfaces of the wedge, K, and the abutment, A. To prevent the accumulation of detritus in the groove of the tool body and the consequent jamming of the mechanism, two intermediate pieces, Z, Z, are provided.

In lowering the tool the cheeks are pressed by hand into the groove and fastened by a wire which breaks at the first impact of the tool and releases the cheeks, the latter being then forced into position for cutting by the spring and wedge, K. Another means is provided by the inventors, but as it appears somewhat complicated and liable to get out of order in practical working, its description will be omitted. When the tool is being withdrawn, the sloping outer surfaces of the cheeks come in contact with the lowest length of casing in the borehole, and are thereby pressed inward, thus enabling the tool to be drawn up without difficulty.

The principal advantages of the Wolski under-reamer are the effective guidance of the cutting cheeks, their firm position when in work, the simple and strong construction of the tool, and finally the possibility of renovating the worn-out cutters by welding.



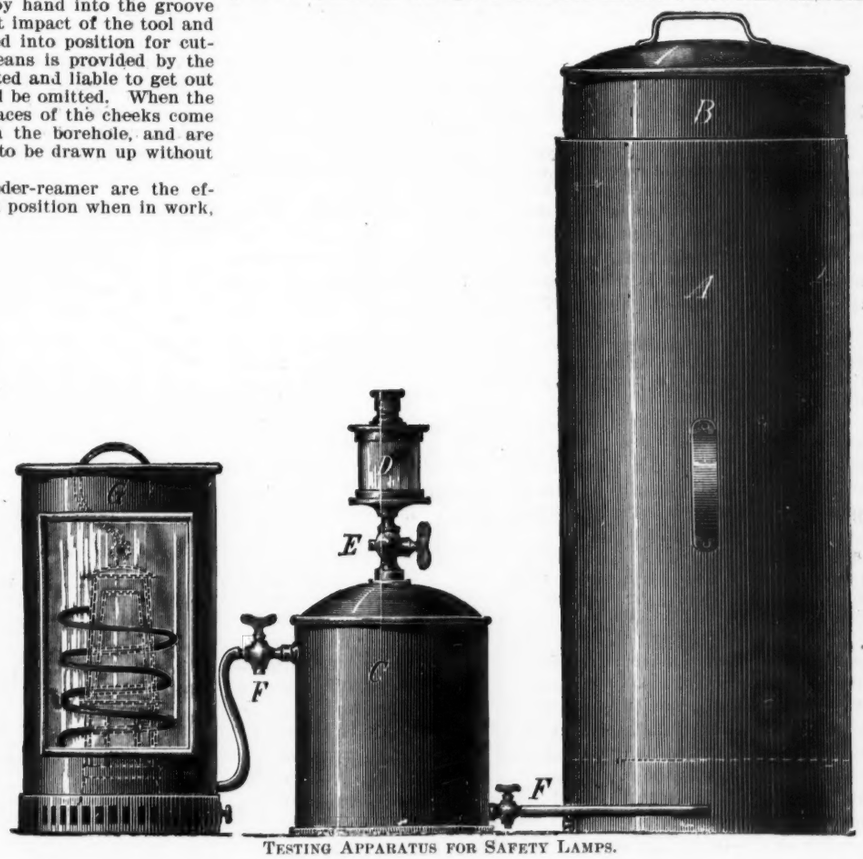
GERMAN UNDER-CUTTER.

It is generally admitted that, hitherto, no satisfactory under-cutter has been made, some forms of this indispensable tool acting well in soft rock but badly in hard strata, while others that are easily lowered into the borehole are difficult to withdraw, often pulling up the casing; there are others which would probably work efficiently were it not that they break or bend at the outset. The principles on which the construction is based may be briefly outlined as follows:

Wolski proceeds on the assumption that the section of the borehole acted on by the under-reamer is not cylindrical, but conical, in form, the diameter decreasing downward. This assumption is justified by facts, in so far that a boring tool working in inclined strata where hard and soft rock alternate, is subjected to wear, on the outer edges, to such an extent that the cutters are reduced in diameter by 1 to 1½ cm. during work, whereby a conical borehole is formed. In the stroke of the drill or under-reamer in such a borehole the forces take an almost horizontal direction—N (Fig. 2) in consequence of the slight conical slope of the walls, under which the influence of friction resolves into the direction O during the stroke and O¹ when the tool is being raised. This double reaction on the part of the walls tends to press the cheeks of the tool inward during the stroke and to jam the tool during lifting, the result being that in under-reamers with long cheeks the latter are kept closed during the stroke and therefore do not act on the walls, but merely glide over the surface. With short sloping cheeks—like those of the Fauck tool, for instance—this evil is avoided, the force O taking a direction above the cutters; but here the strain on the pins is so great as to lead to breakage. Wolski's conclusion is that, to fulfil its task properly, an under-reamer must be constructed so as neither to slip at the moment of the stroke nor jam when raised; that is, the cheeks must be absolutely unmoved by the force O, but obedient to O¹. These conditions are fulfilled in the Wolski tool, since during the stroke the cheeks are firmly held in place by the wedge and abutment, which prevent their slipping, while when the tool is being lifted they are easily pressed inward by the friction of the walls, and therefore offer no resistance to withdrawal.

APPARATUS FOR TESTING SAFETY LAMPS.

The accompanying illustration shows apparatus for testing miners' safety lamps, which has been devised and is made by Friemann & Wolf, at Zwickau, in Saxony, and is extensively used in German mines. In the cut A and B are two cylinders, the latter of which is inserted in the former. Cylinder A is filled with water to three-fourths of its capacity; and cylinder B, the bottom of which is open, has a valve in its top. By simple pressure of the thumb the valve can be opened, whereupon cylinder B is made to rise to three-fourths of its height and becomes filled with air. At the bottom of cylinder A is a pipe which, as it extends above the surface of the water receives the air which cylinder B forces into the reservoir C, where the gases are generated. C is a reservoir, the inside of which is divided into several portions by partitions, made of corrugated sheet iron and filled with some absorbent material such as cotton wool. The glass cylinder D is only filled with benzine just before it is required to bring the apparatus into use. If the cock E be opened, the benzine will flow into the reservoir C, in which it is obliged to follow the corrugations of the sheet iron, and in this manner it offers a large surface to the air, which is thus impregnated with benzine and transformed into gas.



TESTING APPARATUS FOR SAFETY LAMPS.

The gas then passes through the cock F into the testing cylinder G, which is made of tin-plate and fitted with a pane of glass. Inside this testing cylinder there is a pipe, wound in spiral form, the inside of which is drilled with small holes which serve for the entrance of atmospheric air. By means of a metal sliding valve the quantity of air entering upon the lamp to be tested may be reduced, and the lighted lamp is placed within the spiral pipe in the cylinder G, when the cock F must be opened. The gas will then issue through the fine holes in the pipe and stream on the lamp. If the lamp be defective, the generated gas will be ignited in the cylinder G, but the flame of a well made lamp will be extinguished in the presence of too large a quantity of gas, a slight quantity of this gas producing the same effect upon the lamp as does pit gas.

This apparatus enables a manager to have his lamps tested quickly and economically, and ought to be very serviceable at mines where the use of safety lamps is necessary.

THAWING FROZEN GROUND BY ELECTRICITY.—According to the "Electrical Age," Mr. Nelson Graburn, electrical engineer of the Montreal Steert Railway Company, has obtained a patent for a process of thawing frozen earth by the passage of a current of electricity.

QUESTIONS AND ANSWERS.

(Queries addressed to this department should relate to matters within the special province of this periodical, such as mining, metallurgy, chemistry, geology, mineralogy, machinery, supplies, etc. As it is manifestly impossible to devote space to all the questions and notes constantly received, preference will be given to topics which seem to be of interest to others besides the inquirer. We cannot here undertake to give professional advice on problems requiring special investigation and which should be obtained from a consulting expert. Brief replies to questions will be welcomed from correspondents. While names will not be published, all inquirers should send their names and addresses. Anonymous questions will not be answered.—Editor E. & M. J.)

Manganese Ore.—Where is there a market for ore carrying 50 to 60 per cent. manganese. What is its value? The ore can be furnished in any quantity desired.—T. H. L.

Answer.—Your questions have been heretofore answered in our columns. See "Engineering and Mining Journal," June 18th, 1898, page 736; December 17th, 1898, page 732; also "The Mineral Industry," Volume VI. and previous volumes. The current prices of manganese ore are in our table of prices each week.

Treatment of Antimonial Lead Ores.—Can you give me any further information about the experiments which are being conducted in France for the treatment of antimonial-lead ores? A reference was made to them in the "Engineering and Mining Journal" for January 7th last.—Sb. Pb.

Answer.—The experiments referred to are still in progress, and we have received no further information regarding them. We expect, however, to have a full account before long.

Slag Bricks and Cement.—Will you kindly supply me with particulars of the method and cost of manufacture of building brick and cement from blast furnace slag?—J. H. O.

Answer.—You will find articles describing the manufacture of slag brick in the "Engineering and Mining Journal," March 12th, 1898, page 314; March 26th, 1898, page 376. Concerning slag cement some information was given in the "Engineering and Mining Journal," September 3d, 1898, page 282, and in "The Mineral Industry," Volume V.

Bromo-Chlorine Process.—Can you give me some information regarding a process for the recovery of gold known as the bromo-chlorine process, said to be patented by a man by the name of Greenwalt in Denver, Colo.?—O. R. S.

Answer.—We do not know the name of Greenwalt in connection with any patented process. The process you refer to is probably the Stephens process, which is a lixiviation process using both chlorine and bromine. For some remarks on this process you can refer to the "Engineering and Mining Journal," October 22d, 1898, page 482; November 19th, 1898, page 612.

Do you think the prospects are bright enough to induce a man to go down to Nicaragua; or, in other words, are the developments such that, in your estimation, it will pay to go there?—J. B. L.

Answer.—The question of going to any district to mine there depends so much upon personal considerations that we cannot undertake to make any recommendations. Some interesting facts with regard to the country were given in the "Engineering and Mining Journal" of July 30th, 1898. We try to present the facts in relation to mining opportunities in different districts and countries, but each man must decide for himself whether it will pay him to go to any special region. Our own opinion is that the United States is good enough for any one, and that any industrious man can do better here than in any other country on the face of the globe.

Liquid Air.—I am informed that a company has been formed in New York for the purpose of producing and selling liquid air. Can you give me the name and address of the company; also the process employed by the company and the conditions under which the product is transported.—J. A. M.

Answer.—No company has yet been organized in New York or elsewhere to furnish liquid air. Dr. Charles E. Tripler, of New York, has conducted many successful experiments, and has shown many purposes to which liquid air can be applied. The process has not yet reached the commercial stage, however, and there are no arrangements completed for supplying the air to consumers. Meantime the machinery and processes used remain the property of Dr. Tripler. Later the process may be taken up commercially, and the facts will then be given in our columns.

Assayers' Charges.—Can you inform me what are the customary charges made by chemists for analysis of coal, coke, water, iron ore and other ores, and for fire assays?—L. A. O.

Answer.—There is no common schedule of assay charges, the rates differing widely in various districts. For example, a New York assayer charges $8 for the determination of gold, silver and lead in a specimen sample, while a Denver assayer of equally high standing makes the same determinations for $2. The rate in Leadville, Colo., is less than in Denver. Restricting the inquiry to one particular place, it may be said that the rate varies according to the nature of the work—umpire, control or specimen assay—and the difficulty of the determination of the respective elements contained in the ore. Thus a higher charge is made for the determination of zinc than for silver. Liberal discounts from the card rates are made on large bills, and still further discounts may be obtained by special contract. Under these conditions it would be futile for us to give you a more specific answer. You can obtain a price list from almost any assayer in New York, Denver, Salt Lake City, or elsewhere, and you may find the advertising cards of many in our professional directory.

Liquid Chlorine.—At what pressure and what temperature can chlorine be liquified? What kind of a compressor should be used, and where can it be obtained?—H. K. M.

Answer.—According to the books, chlorine can be liquified at 0°C. by a pressure of 6½ atmospheres; at 12.5° C. (54.5° F.) by a pressure of 8½ atmospheres. In practice, however, a somewhat higher pressure would be required; at any rate, it would be safer to provide for it. No special type of compressor is made in this country for this purpose, but one could doubtless be obtained if required.

Liquid chlorine is made in Germany on a commercial scale, and is regularly sold in that country and here; it is conveyed and sold in steel cylinders, and the price quoted by the agents in New York is 30 cents a pound.

Messrs. Mariner & Hoskins, of Chicago, who have the agency in the United States for this product for mining and metallurgical purposes, inform us that the method of introducing chlorine into vats from cylinders charged with the liquid chlorine is now in regular operation at the Utica Mine, in Calaveras County, California. It was adopted there after careful experiments, and has been found not only more convenient, but more efficient and economical than the usual method at Plattner works of generating chlorine by the use of manganese salt and sulphuric acid. Experiments are being made with the liquid chlorine as a substitute for "bleach" and sulphuric acid in the barrel chlorination process, and it is believed that there are only slight mechanical difficulties to be overcome.

With the exception of its use at the Utica Mine, the employment of liquid chlorine is still in the experimental stage. Its substitution for chloride of lime in bleaching operations would, of course, be largely a question of expense.

PATENTS RELATING TO MINING AND METALLURGY.

UNITED STATES.

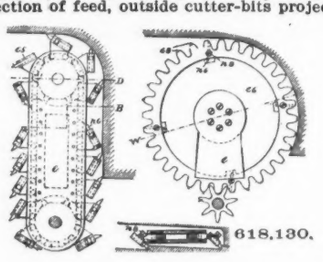
The following is a list of the patents relating to mining and metallurgy and kindred subjects issued by the United States Patent Office. A copy of the specifications of any of these will be mailed by the Scientific Publishing Company upon receipt of 25 cents.

Week Ending January 24th, 1899.

618,100. PORTABLE PNEUMATIC HAMMER. Charles H. Johnson, Springfield, Ill. Assignor, by direct and mesne assignments, to the Johnson-Parfit Tool Company, same place. A casing provided with a fluid-pressure chamber and inlet and exhaust openings, an operating tool in one end thereof, a reciprocating piston-hammer in the casing arranged to contact the operating tool at one limit of its stroke and to divide the pressure chamber into two chambers so as to present a larger superficial area of piston in one chamber than in the other.

618,108. CARBURETER. Amherst G. Lamb, Torrington, Conn. The combination, with oil and air tanks, of a carbureting tank, a pan located in the carbureting tank, a foraminous plate supported by said pan, a pipe leading from the air tank into the carbureting tank, the delivery end of said pipe being situated in said pan, and a pipe connecting the oil and the carbureting tanks.

618,130. MINING MACHINE. Charles O. Palmer, Cleveland, Ohio. In a coal-cutting machine adapted to travel parallel to the working face of the coal, the combination of a horizontally-revolving cutter inclined to its direction of feed, outside cutter-bits projecting from its periphery and adapted to cut on the front side in its revolution, mortises in said cutter extending from the periphery downward and inward, cutters in said mortises with their cutting edges pointing inwardly and adapted to cut in a single plane on the rear side of its revolution, together with means for driving the cutter and feeding it to its work.



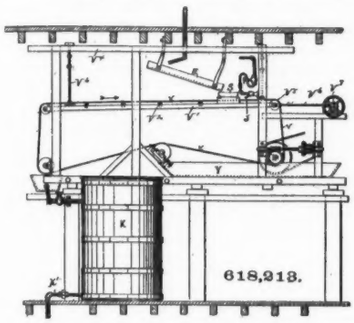
618,130.

618,143. DREDGING MACHINE. Andrew Thompson, Tacoma, Wash. The combination with a pivoted boom or carrier and a sprocket chain thereon of idler pulleys located at or near the pivot of said boom whereby the proper tension of the chain is kept practically constant in every position of the boom.

618,167. SODIUM SALT OF IODINE COMPOUND. Alexander Classen, Aix-la-Chapelle, Germany. The sodium salt of an iodine compound containing the iodine in the benzene nuclei of phenolphtalein, the same being a dark-blue amorphous powder, nearly odorless and tasteless and readily soluble in water, glycerine and alcohol.

618,213. ART OF CONVERTING METALLIC LEAD INTO OXIDES. Albert W. Southard Newark, N. J. Assignor to the Rubber and Celluloid Harness Trimming Company, same place. The process consists in first agitating in a suitable vessel, metallic lead in a comminuted

form in the presence of water, and simultaneously introducing air into and throughout the mass; secondly, withdrawing a portion of the mass and agitating the same for the purpose of separating the



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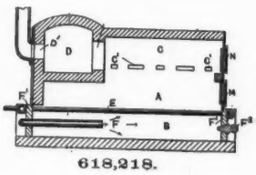
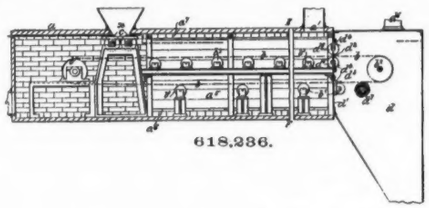


618,218.

lighter hydroxide from the heavier metallic lead by gravity, and thirdly, compressing the hydroxide to expel the water.

618,218. HEATING FURNACE. William W. Barnes, Harrington, England. The combination with a fire-chamber, of an open-bottomed heating or reverberatory chamber situated directly over the same and having its side walls perforated to admit of the insertion of the articles to be heated, and a soaking pit or oven provided with a bottom and also situated directly over the fire-chamber.

618,236. DRIER FOR WHITE LEAD, ETC. Thomas C. Sanderson, London, England. The longitudinally-extending drying-chamber provided at each side with reheating-chambers in communication with the drying-chamber at top and bottom throughout the length of the cham-

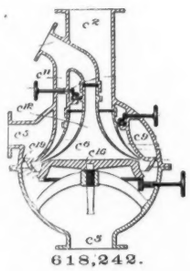


618,236.

bers, a receiving-hopper at one end of the drying-chamber, the endless carrier, and aprons protecting the openings through which the endless carrier passes into the hopper and back into the drying-chamber.

618,242. HYDRAULIC AIR COMPRESSOR. Albert A. E. Sterzing, New York, N. Y. The combination of an injector provided with requisite inlets and outlets for water and air, said inlets being telescopically arranged and terminating in flared annular ports concentrically disposed, means for adjusting the inlets to vary the area of the ports, a deflector, and a chamber receiving the discharge from the ports and having independent outlets for air and water.

618,243. HYDRAULIC AIR-COMPRESSING APPARATUS. Chas. H. Taylor, Montreal, Canada. Assignor to the Taylor Hydraulic Air Compressing Company, Limited, same place. Hydraulic air-compressing apparatus having a chamber wherein the air and water are separated,



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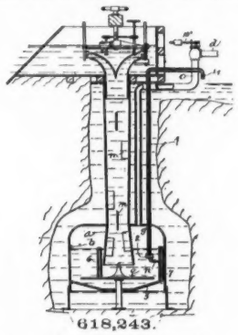
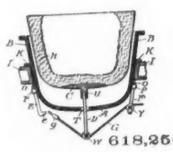


618,243.

an air-conductor leading therefrom and an automatically-operated valve in said conductor, controlling the passage of the compressed air and arranged to close when the pressure falls below a given limit and thereby prevent the overflow of water through the conductor.

618,256. SLAG OR CINDER POT. James W. Shook, Albert E. Barton, John J. Shannon, Joseph Dunn and Erskine Ramsay, Birmingham, Ala. The combination with a slag or cinder pot of a cleaning device located in the bottom of the pot, and over which the skull is formed



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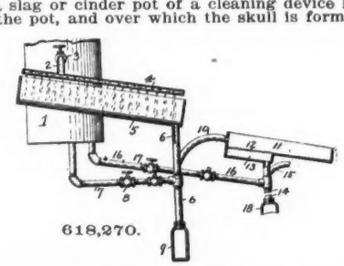
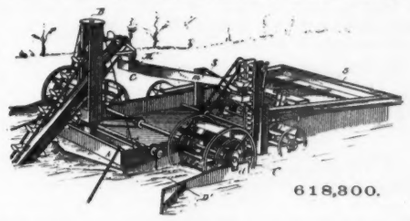


618,270.

as the pot is used, an operating connection for moving said cleaning device outwardly from the bottom of the pot, and means whereby when strain is exerted upon said operating connection, the cleaning device will be forced outwardly and dislodge the skull.

618,270. GOLD-SEPARATOR. Franklin E. Jackson and Lucius R. Henley, Greentown, Ind. A concentrator and sluice, with provision for a steady supply of water through a perforated pipe supplied from a tank overhead.

618,300. DREDGING AND MINING APPARATUS. Maurice Steinberg, Biwabik, Minn. The combination of a scow or float, a vertically-arranged horizontally-revoluble mast, a yard-arm movably mounted in said mast and passing through the same, whereby it may be ad-



618,300.

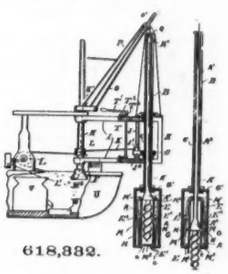
justed longitudinally to a greater or less depth, an endless chain of dredging-buckets upon said arm, a trough for receiving the dredged material, a sluice-box for receiving the material from the trough, and means for operating the dredging-buckets.

618,297. OIL-WELL DERRICK. Francis R. Shaw, Chatham Center, Ohio. A combination of gearing intended to operate the drill, with a rope, suitable guides and a cone pulley to regulate the speed.

618,307. PROCESS OF REMOVING GREEN COLOR FROM PARAFFIN. August Wendtland, Berlin, Germany. A process which consists in treating petroleum residues with a soap composed of fatty acid and an alkaline solution, allowing the soapy and oily matters to separate, treating the oily portion with barium-chloride solution, and filtering such oily portion through bone-black which has been impregnated with alcohol.

618,327. MANUFACTURE OF WELDED PIPE. Thomas J. Bray, Pittsburg, Pa. Assignor of one-half to the Oil Well Supply Company, same place. The method consists in preparing skelp by bending the lateral edges to form arcs of the finished pipe, introducing the same into a suitable heating-furnace with the body portion resting upon the furnace-bottom and the lateral edges projecting above, raising the edges of the skelp to a welding heat and the body of the skelp to a bending heat, and finally passing the skelp from the furnace into and through a suitable welding device.

618,332. POWDER DREDGING MACHINE. Charles L. Cloudman, North Adams, Mass. In a dredge for off-shore placers, the combination with a suitable barge, of a cylinder having bottom-closing slides



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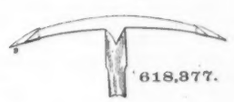

618,377.

pivotally supported, an auger vertically movable within and below the cylinder, a cone or body moved by the raising of the auger to close the plates, and means for vertically moving the cylinder and auger and for rotating the latter.

618,341. APPARATUS FOR DRAWING PUMP-RODS FROM WELLS. Joseph E. Garver, Rollersville, Ohio. An apparatus comprising a winding-drum, ratchet-teeth on the drum, a boxing movable across the drum, swinging rack-teeth mounted in the boxing and adapted for engagement with the ratchet-teeth, means for swinging the rack-teeth into operative position, for moving the boxing with the rack across the drum, a roller engaging with the top of the boxing, and straps engaging around the drum and having bearings for the journals of the roller.

618,377. MINER'S PICK. Edmond Daly, Monterey, Cal. The combination with the pick-head having a slot in the end; of the detachable point having a tongue to fit the slot, an overhanging top flange and an excess of metal on the lower edge of the tongue for swaging the tongue over the edges of the slot.

618,382. CARBURETER. Henry H. Hardy, Covington, Ky. The combination of the tank, the air-pump connected thereto and having its discharge near the top thereof, the stand-pipe having its receiving end near the bottom of the tank and its upper end terminating in a vaporizing-chamber, the hot-air chamber secured upon the vaporizing-chamber and having branches to connect to the main supply-pipe and pass the gas to said pipe, the commingling tube or chamber within said air-chamber, the tube or funnel to receive air and gas, commingle them and pass them to the supply-pipe, the initial burner below the vaporizing-chamber, and suitable valves to control the flow of gas to the initial burner and from the vaporizing-chamber.

GREAT BRITAIN.

The following is a list of patents published by the British Patent Office on subjects connected with mining and metallurgy:

Week Ending December 17th, 1898.

27,508 of 1897. PRECIPITATING GOLD FROM SOLUTION. O. March, London. Arrangement of vats and poles for precipitating gold from solutions from ores.

27,752 and 27,753 of 1897. STEEL ALLOY. R. A. Hadfield, Sheffield. A hard malleable steel without manganese, similar to crucible steel, but made from metal resulting from the first part of the Bessemer or open-hearth process.

6,636 of 1898. SODIUM AND POTASSIUM PRODUCTION. C. E. Acker, New York, U. S. A. Improvements in the process for producing metallic sodium and potassium by first forming an alloy with lead electrolytically.

21,666 of 1898. PICK. R. Llewellyn, Pontypridd. Miner's picks with each arm separate.

Week Ending December 24th, 1898.

1,106 of 1898. NICKEL SAVING. L. Mond, London. Method of precipitating nickel from the nickel carbonyl compound.

13,736 of 1898. TIN ORE DRESSING. J. Coad, Camborne, and J. Eustice, Southampton. Detailed improvements in the arrangement of Cornish tin dressing buddles.

22,193 of 1898. CONCENTRATOR. F. L. Bartlett, Canyon City, Colo., U. S. A. Improved shaking table.

22,265 of 1898. EXTRACTING ALUMINA. E. Raynaud, Brussels, Belgium. Method of extracting alumina from aluminous ores.

PERSONAL.

Mr. Chas. S. Warner of Butte, Mont., has been visiting Trail Creek.

Mr. C. N. Macintosh of the British America Corporation was recently in Seattle, Wash.

Mr. Thomas Hooper has been appointed manager of the new Victoria Copper Company.

Mr. G. M. Gouyard, of Denver, Colo., is at present in Sonora, Mexico, on professional business.

Mr. D. Searles, superintendent of the Eureka & Excelsior Mines at Sumpter, Ore., has been in San Frnacisco.

Mr. F. W. Page, manager North Fork Mine, Forest, Cal., is examining properties in Siskiyou County, Cal., for an Eastern company.

Mr. John Stanton, of New York, has been visiting the copper properties in which he is interested near Houghton and Hancock, Mich.

Mr. H. C. Callahan, formerly of California, has been appointed superintendent of the Lake View Consols, Kalgoorlie, West Australia.

Mr. Walter B. Mosman of Boston has been elected secretary and treasurer of the Centennial, Old Colony and Union Copper Mining Companies.

Mr. C. A. Hamilton of San Francisco, with Mr. A. Scowden of London, Eng., is examining copper properties in the Pitt River country of Shasta County, Cal.

Mr. W. S. O'Brien has been appointed foreman of the Homestake Mine at Lead, S. D., to succeed Mr. N. Treuick, who is to act as foreman of the Uncle Sam Mine.

Mr. J. D. Duncan, of New York, secretary of the Helvetia Mining Company, has been examining the workings of the South Daisy Mine, at Mercer, Utah.

Prof. R. S. Woodward of Columbia University has had his title changed from Professor of Mechanics to that of Professor of Mechanics and Mathematical Engineering.

Mr. R. W. Petre, mining engineer, of Baltimore, starts February 15th for Mexico, where he expects to examine and report on a large mining property in Zacatecas.

Mr. W. W. Churchill, who graduated from Cornell in 1889, and has been connected for 9 years with Westinghouse, Church, Kerr & Company, has been appointed mechanical engineer.

Mr. C. T. Mixer arrived at Rama, in Nicaragua, January 20th, and is now engaged in examining some mining propositions in the interior. He expects to spend some months in the country.

Mr. Elmer E. Stone of Braddock, Pa., has been appointed general purchasing agent for the American Steel and Wire Company. Mr. Stone was formerly connected with the Braddock Wire Company.

Messrs C. Nigel Stewart, of London; G. Wilson, of Edinburg; T. Mickel, of Edinburg, and J. Edwards, of New York, who have been examining mining properties in Mexico, are in San Francisco.

Mr. Henry J. Conant, manager of the Boston office of Westinghouse, Church, Kerr & Company, has been promoted to the staff of the concern. He graduated from the Massachusetts Institute of Technology in 1887.

Mr. John B. Farish has returned to this country, and is to take up again the practice of his profession in Colorado. He has been examining mining properties for the Exploration Syndicate of London, Limited, for the past three years.

Mr. Edgar Rickard has been appointed superintendent of the Moon-Anchor Mine, at Cripple Creek, which has just passed into the hands of the Venture Mining Company, of London. Mr. T. A. Rickard will be consulting engineer.

Mr. Howard Knauss, chemist for the Crane Iron Company, Catasauqua, Pa., has resigned to accept a position as first assistant chemist in the laboratory of the Latrobe (Pa.), Steel Works. Mr. Hugh McAnnliffe will succeed Mr. Knauss at Catasauqua.

Mr. William B. Courtis, mining engineer of Detroit, Mich., recently returned from examining some mines in Ontario. He is now on his way to Colorado, where he expects to remain for a month or more, examining mines in Cripple Creek and Durango.

Mr. John F. Kidder, of Grass Valley County, is visiting Syarcuse, N. Y., after an absence of 35 years. He went to Nevada in 1866 as a civil engineer and later took up gold mining. He is now president of the Nevada County, Cal., narrow gauge railroad and a member of the State Debris Commission.

Mr. W. A. Clark, the newly elected Senator from Montana, was born in Connellsville, Pa., in 1839. He went to Central City, Colo., in 1862, and the following year to the Bannack gold placers in Montana, where he cleaned up a fair stake from his claim. He then became a trader, bringing in supplies and opening stores at several camps. In 1868 he formed a partnership with W. H. McDonnell, of New York City, as a wholesale trader and banker, and later acquired the Butte Bank. In 1872 he bought the Original, Colusa, Mountain Chief, Gambetta and other claims at Butte, and spent the following winter at the Columbia School of Mines, in New York. He returned to Butte, built the first stamp mill in that camp, and organized the first smelting company of importance, the Colorado & Montana Mining Company. In 1880 he organized the Moulton Company, which erected the Moulton Mill and developed the Moulton Mine, a silver producer, still in operation. With his brother he now owns the Butte Reduction Works, the Colusa, Parrott and other Butte copper mines. In 1883 he secured an option on a small property in Arizona and developed there the United Verde Mine and Smelter, one of the largest copper properties in the world. He also owns copper wire works at Elizabethport, N. J., coal mines at Gallup, N. M., and Bridger, Mont., and is interested in the Sunset Peak silver-lead property in the Cœur d'Alene District, in Idaho.

OBITUARY.

James E. Boyden, of Spokane, Wash., was instantly killed at Trail, B. C., on January 30th by a shock from the switchboard of the Trail smelter. He was head mechanic at the smelter.

SOCIETIES AND TECHNICAL SCHOOLS.

Institution of Mechanical Engineers, Great Britain.—Notice is given that the office and address of the institution in London have been removed to Storey's Gate, St. James Park, Westminster, S. W.

Engineers' Club of St. Louis.—At the meeting on February 1st 27 members and 8 visitors were present. Mr. H. S. Wilson was elected a member. The resignation of Prof. J. B. Johnson as a member of the Board of Managers of the Association of Engineering Societies was read and accepted, as was the resignation of Mr. Elliott Jones as a member of the club. The donation of "The Science of Modern Cotton Spinning," in two volumes, by Messrs. T. G. Meier and E. D. Meier, and Vol. 27 of the "Transactions of the American Institution Mining Engineers," by Mr. E. D. Meier, were announced; also some reports on "Water Supply and Sewerage," by Mr. J. James R. Croes. Mr. H. S. Wilson read the paper of the evening, entitled the "Production of Seamless Tubing." Mr. Wilson dealt with the kinds and characteristics of the ore needed and some of the requisite processes of its reduction to steel. The various methods of getting the hole in the billet were explained and the main characteristics of the more important machines used for this purpose were set forth. The annealing and pickling processes, the drawing benches, the number of reductions necessary, the kinds of lubricants used, etc., were all fully gone into, and interesting reasons for many troubles which arise given. Mention was made of the great variety of grades and sizes of tubes and the care necessary to keep them separate in the factory. The processes for the production of lead, brass and copper tubes were also touched upon. Sketches on the blackboard illustrated the various points and a few samples showed how the reductions are made.

Alabama Industrial and Scientific Society.—The annual meeting was held in the Birmingham Commercial Club rooms, February 6th, noon. In attendance were the following: Fred M. Jackson, of the Standard Coal Company, of Brookwood; Dr. E. A. Smith, Tuskaloosa; Dr. W. B. Phillips, Pittsburg, Pa.; Allen Haskell, Sol Haas, H. Kettig, J. R. Harris and A. W. Belden, Birmingham; J. W. Castleman, Leeds; Prof. J. Y. Graham, Tuskaloosa; Col. Horace Harding, Birmingham; Henry McCalla, Tuskaloosa; Prof. M. C. Wilson, Florence; Prof. Wilkin, Tuskaloosa; and John W. Johnston, Birmingham.

The action taken at the last meeting in reference to recommending the Legislature to amend the present mining laws so as to compel the various mining companies to supply the State Mine Inspector with a monthly report, was reconsidered. No changes are recommended in the present law, except that companies mining bauxite and other products will have to report with the coal miners.

New members were elected as follows: Dr. P. H. Mell, of Auburn, Ala.; Mr. Kenneth Robertson, Sloss Iron & Steel Company; Mr. Percy R. Jones, of Florence, Ala.

The following papers were passed on by the council: "Iron Ore at Leeds," by J. W. Castleman; "Road Making," by Col. Horace Harding; "A Section of Red Mountain over the Water Works Tunnel and Geological Survey of Ore Seams Found in that Tunnel," by Allen Haskell; "Mineral Resources of British Columbia," by W. M. Brewer.

Secretary E. A. Smith in his annual report showed that the Society has about 50 active members, and since the last meeting 13 new members were added, with but one resignation. The financial condition of the Society is good, and the library has received a number of publications of interest.

Senate Resolution No. 205, now before the United States Congress, looking to the establishment of a division of mines and mining in the geological survey for the gathering of statistics of the mineral resources of the United States, including gold and silver, was indorsed by the Society, and the secretary was instructed to request the Alabama representatives in Congress and the Senators from Alabama to vote for the resolution.

The annual report of President M. C. Wilson reviewed the work of the Society during the past year and outlined plans for the future. He suggested the establishment of a school of science at some central point. He showed the benefits to be derived from such an institution, and predicted more benefits to follow.

Officers for the ensuing term were elected as follows: J. H. Fitts, of Tuskaloosa, president; J. McGarvin, Rock Run, and J. H. McCune, of Woodward, vice-presidents; Dr. E. A. Smith, secretary and treasurer.

After the meeting there was a banquet at the Morris Hotel. It was decided to hold the next meeting in Birmingham on May 3d.

INDUSTRIAL NOTES

The D. Clint Prescott Company of Marietta, Mich., manufacturer of saw mill and mining machinery, has established Chicago offices at 404 Fisher Building.

The Binghamton Gas Engine Company, Binghamton, N. Y., has been organized to manufacture gas engines, the invention of Charles B. Rumsey, Homer, N. Y.

The Taylor-Brunton Sampling Works, at Aspen, Colo., Victor, Colo., and Salt Lake City, Utah, handled the enormous amount of 254,000 tons of ore during the year 1898.

The Edward P. Allis Company of Milwaukee has, it is stated, recently received an order from London, Eng., for $100,000 worth of engines and machinery for the City of London electric light plant.

The Frank-Kneeland Machine Company of Pittsburg, Pa., has been awarded the contract for the 16-in. and 12-in. rod mill trains for the new plant of the Alabama Steel and Wire Company, Ensley, Ala.

The Cambria Iron Company has increased the wages of the 7,000 workmen in its works at Johnstown, Pa., 10%, to date from February 1st. The advance is practically a restoration of the old wage scale.

It is stated that the Lorain Steel Company of Lorain, O., is enlarging the big Myler hoist on its docks so as to double the capacity of its dock machinery. The work is expected to be completed by the opening of navigation.

The New York Lead and Zinc Company has been organized in New York to buy and sell mineral lands. Authorized capital, $200,000. Incorporators: P. S. Swain, T. M. Nichols, J. A. Rudkin, T. E. Steiger, E. A. Govell.

Mr. E. D. Johnston, president of the P. H. & F. M. Roots Blower Company, of New York, manufacturing rotary pressure pumps and blowers, has secured a contract for a New Orleans irrigation pumping plant, amounting nearly $100,000.

The Gates Iron Works of Chicago is manufacturing a new sized breaker, No. 9. It weighs 150,000 lbs., has three receiving openings, each 20 x 48 in., and will crush from 150 to 300 tons per hour, depending upon the character of the rock or ore.

Adam Cook's Sons, of New York City, manufacturers of the Albany Lubricating Compound, report that sales are very satisfactory. The Albany Compound has been in use for over 20 years, and those who have used it longest speak most highly of it.

The Arthur Fritsch Foundry and Machine Company, of St. Louis, Mo., has been running day and night since the first of the year. It has had considerable work from the lead mines in Southeast and Southwest Missouri, including rolls, crushers, disintegrators, etc.

The Jeanesville Iron Works Company, through its Denver branch, A. Middlebrook, manager, has received an order from St. Louis, Mo., for one of its improved sinking pumps, No. 9 B, and has shipped one of the same size to New Mexico. The shops are very busy on mine pump work.

The Ella blast furnace at West Middlesex, Pa., was purchased recently by Pickands, Mather & Company, of Cleveland, O., for $35,000. The furnace has been idle for two years. The furnace

will resume operations as soon as extensive repairs are completed, and 100 men will be employed.

The M. D. Stebbins Manufacturing Company, with principal office in Jersey City, N. J., has been incorporated with a capital of $75,000, to manufacture aluminum, bronze and other metal castings, by Moro D. Stebbins, Chicopee, Mass.; Gomer P. Jones, Springfield, Mass.; Wm. E. Carter.

The Pressed Steel Car Company, Pittsburg, Pa., recently received an order for 1,000 steel cars, of 100,000 lbs. capacity each, at a total cost of $1,000,000, from the Union Pacific Railroad. Thomas Reynolds, of London, representing a South African railroad, also ordered 300 cars for South Africa.

The Lukens Iron and Steel Company of Coatesville, Pa., will enlarge its works by the erection of 5 or 6 more open-hearth furnaces of larger size than those already connected with the plant. The company will also build a universal plate mill, to roll plates up to 48 in. in width, with smooth edges.

The Filer & Stowell Company, Milwaukee, Wis., is building a 26 x 60-in. Corliss engine for the Whitney Iron Works, New Orleans; and has an order from the Washburn & Moen Manufacturing Company, Worcester, Mass., for a tandem compound engine with 10½-in. high pressure cylinder, 20-in. low pressure cylinder, 42-in. stroke.

The Bethlehem Iron Company of Bethlehem, Pa., last week finished what is reported to be the largest steel shaft ever made in the world. It is for the Boston Elevated Road, and will be driven by an 8,000 H. P. engine. The shaft is 27 ft. 10 in. long, diameter in center 37 in. and diameter at ends 34 in. Its total weight is 170,000 lbs.

C. S. Bartholf, for the past four years secretary of the M. C. Bullock Manufacturing Company of Chicago, has been elected president, succeeding Mr. Bullock, who died January 12th. Mr. Bartholf is a son-in-law of Mr. Bullock. Mr. George Woodland has been elected secretary. The policy so successfully carried out by Mr. Bullock will be continued by the new officers.

The H. C. Fish Machine Works, Worcester, Mass., recently shipped 12 engine lathes to European countries; one a 30 in. by 16 ft. gap lathe for its Copenhagen agent; three 28 in. by 12 ft. gap lathes for the Berlin house of the Garvin Machine Company, and five 18-in. lathes of various lengths for its Russian agent. Three 18-in. lathes were sent to its Paris agent.

Recent orders taken through the Eastern office of the Pelton Water Wheel Company in New York include 100 tons of steel cyanide tanks and 3,500 ft. of 12-in. heavy pressure piping for shipment to South Africa; half of the power plant equipment of the Portezuelo Electric Power Company of Puebla, Mexico, including a 2,500 H. P. water wheel and 300 tons of steel pipe, and for similar material for Colombia, Peru and Norway.

The Maryland Cement Company of Baltimore, Md., has increased its capital stock to $100,000 and is to double the capacity of its mill at Sparrow's Point. The new buildings will include a storehouse 75x120 ft., an office and laboratory 16x48 ft., to be of wood, covered with corrugated iron. The most improved machinery will be installed, and the daily output of the mills will be 1,000 bbls. of cement. Frank H. Sloan is president.

The Toledo White Lead Company has been incorporated under the laws of Michigan, with C. E. Sumner, H. E. Brown, A. E. Macomber, E. McCleary, J. Landgraff, Jr., Toledo, and S. Carsly, Kendalville, Ind., as incorporators. The capital stock is $25,000. The company is successor to the business of the Toledo White Lead and Oil Company, which has been in the hands of a receiver. The factory is located in Toledo, O., and the new company will continue the business.

We are informed by the Magnolia Metal Company, of New York, that through the Magnolia Anti-Friction Metal Company, in England, it brought suit against John Lugden, Atlas Metal Company, Limited, et al., for conspiring to manufacture and sell anti-friction metals after the expiration of a contract. The court gave judgment for an injunction restraining the defendants from engaging in the manufacture and sale of anti-friction or like metals for a period of 5 years.

The Merchants' Wire and Nail Company, with a capital of $500,000 common stock and $500,000 in 7% preferred stock, has been incorporated under the laws of New Jersey. The incorporators named in the charter are Clement N. Biddle, Robert Biddle and William B. Knight, all of Philadelphia. Of the capital stock, $200,000 is paid in. The main office will be at Philadelphia, and mills will be located at Philadelphia, Pittsburg, New York, Newburg, N. Y.; Baltimore, Cleveland, O.; Ashland, Ky.; East St. Louis, Chicago, Pueblo, Oakland and other points.

Parties interested in the Air Power Company have bought the Providence Engine Works owned by the heir of George H. Corliss, at Providence, R. I. A new company is proposed, to take in a number of steam engine works throughout the country. The Wheelock Works, at Worcester, Mass., are already controlled by the company. The president of the new company will be Col. D. M. Thompson of Providence, and the directors will include Edwin S. Cramp, Lewis Nion, W. H. Knight and Charles A. Leib.

A dispatch from Chicago states that the company to be formed to control the cast-iron pipe trade is to be the United States Cast Iron and Foundry Company, and it will have a capitalization of $24,000,000, divided into $12,000,000 of 7% non-cumulative preferred and $12,000,000 common stock. The combination will be made up of the American Pipe and Foundry Company, Dennis Long & Company, Anniston Pipe and Steel Company, Lake Shore Foundry Company, Ohio Pipe Company, Buffalo Pipe Company, McNeal Pipe and Foundry Company, and the National Pipe and Foundry Works. It is noticeable that some very prominent concerns are not included in this list.

The American Car and Foundry Company, with an authorized capital of $30,000,000 in 7% non-cumulative preferred stock and $30,000,000 common stock, has been formed to take over the following firms engaged in the manufacture of freight and passenger cars: Michigan Peninsular Car Company; Jackson & Woodin Manufacturing Company, Berwick, Pa.; Missouri Car and Foundry Company; Ohio Falls Car Manufacturing Company; Union Car Company, Buffalo, N. Y.; St. Charles Car Company, St. Charles, Mo.; Wells & French Company, Chicago; Terre Haute Car and Manufacturing Company, Terre Haute, Ind. These companies have an annual capacity of 86,500 freight cars, 500 coaches, 820,000 wheels, 125,000 tons castings, 30,000 tons pipe and 90,000 tons bar iron.

The equipment of the power house at the lower dam of the Falls of St. Anthony, at Minneapolis, Minn., is nearly completed and arrangements have been made by the St. Anthony Falls Power Company with the General Electric Company of Schenectady, N. Y., which manufactured and installed the plant now in operation. The hydraulic work and the power house were finished in the spring of 1898, and five 3-phase alternators of 700 k.w. each and two direct-current generators of the same capacity, with the necessary rotary converters and static transformers, were installed. The full equipment originally contemplated the use of 8 alternators and 2 direct-current machines of the total capacity of 10,000 H.P. The additional equipment will consist of three 700-k.w. 3-phase revolving armature alternators, with rotary converters, step-up and step-down air blast transformers, and switchboards for the generators and converter.

A circular issued about the International Silver Company, a corporation of the State of New Jersey, with an authorized capital of $20,000,000, consisting of $9,000,000 in 7% cumulative preferred stock and $11,000,000 in common stock, organized to manufacture and deal in silver and plated ware, states that the company has already acquired control of 17 concerns representing over 70% of the silver plating industry of the country. The amount of preferred stock issued and to be issued in the acquirement of the companies is $5,026,500. The balance of the preferred stock, consisting of $3,973,500, will remain as treasury stock. The preferred stock has preference in respect to dividends and assets, but receives no dividends beyond 7%, and no share in assets beyond par value. The amount of common stock issued in the purchase of the companies amounts to $9,896,000. The company has provided for an authorized issue of $4,500,000 in 6% first mortgage bonds, of which $3,900,000 have been issued. These bonds were sold at par, and the proceeds used in purchase of properties, providing working capital and for other corporate purposes. The remainder can be used only in the purchase of additional property to come under the mortgage.

The National Steel Company, incorporated under the laws of New Jersey, with $100,000, is to control the various steel plants recently acquired by the American Tin Plate Company. The following companies are mentioned in connection with the negotiations as concerns which it is desired to include in the new company: Ohio Steel Company of Youngstown, O.; King, Gilbert & Warner of Columbus, O.; Aetna Standard Iron and Steel Company of Mingo Junction, O.; Shenango Valley Steel Company of New Castle, Pa.; Buhl Steel Company of Sharon, Pa.; Wheeling Steel and Iron Company of Wheeling, W. Va.; the Bellaire Steel Company of Bellaire, O.; the Apollo Iron and Steel Company, the Canonsburg Iron and Steel Company, Kirkpatrick & Company, Limited; Leechburg Iron Works, P. H. Laufman & Company, Limited; Hyde Park Iron and Steel Company, Republic Iron Works, Chartiers Iron and Steel Company, and Sharon Iron and Steel Company, Limited, of Pennsylvania; the Cambridge Iron and Steel Company, Falcon Iron and Nail Company, New Philadelphia Iron and Steel Company, Reeves Iron Company, Piqua Rolling Mill Company, Struthers Iron and Steel Company, and Canton Rolling Mill Company, all of Ohio; the Newport Rolling Mill Company, plant at Newport, Ky.; the Midland Steel Company of Muncie, Ind., and the Wittaker Iron Company of Wheeling, W. Va.

TRADE CATALOGUES.

Wyckoff, Seamans & Benedict of New York, manufacturers of the Remington typewriter, have published a finely illustrated pamphlet entitled "The Remington Typewriter Afloat." It contains half-tone cuts showing the different types of vessels in the United States Navy.

The Thompson Chemical Company of Baltimore, Md., which claims to be the largest manufacturer of sodium phosphate in this country, in its January price list gives not only prices for a long list of acids, heavy chemicals, etc., but also a series of tables of measures of volume and weight, specific gravity and atomic weight. The price list makes an attractive appearance in its green cover.

The "Detroit" improved standard stationary engine lubricator and a single-connection lubricator for small engines and steam pumps are described in a circular issued by the Detroit Lubricator Company of Detroit. The good points of the device are set forth and prices given. Another circular describes the "Detroit" kerosene oil injector for feeding kerosene gradually into a boiler to prevent or remove scale.

"Absolute Fire Proofing" is the title of a little pamphlet issued by Henry Maurer & Son, fire brick manufacturers of New York city. It gives a description of the recent fire by which the Home Life Insurance building was damaged, points out the very small amount of damage done to the structural steel framework of the building and emphasizes the fact that by the free use of terra cotta or hollow tile blocks a building can be made to all intents and purposes fireproof.

Catalogue A, published by the Vulcan Iron Works of San Francisco, dealing with "Wire Rope Transportation by Means of Aerial Tramways and Ropeways," gives a detailed description of the Vulcan double-rope tramways, with numerous diagrams and half-tone cuts showing method of erection, shape of buckets and carriers, etc. Other diagrams show the tramway as used for handling ore by gravity, for delivering tailings to a cyanide plant, etc. The pamphlet should interest all mining men who are interested in aerial transportation.

The King Powder Company of Cincinnati, O., issues a neatly printed and illustrated pamphlet, giving facts about the organization of the company and its present standing. The various brands of black and nitro powders manufactured by the company include "King's Blasting Powder" for miners and "King's Smokeless" for sportsmen. A "Handy Book for Trap-Shooters and Sportsmen" is also published, which contains the game laws of the various States and the rules of the American Shooting Association.

The Davis Calyx Drill Company of 100 Broadway, New York, has published a 40-page pamphlet describing the Davis calyx drill and its advantages for certain kinds of prospecting work, as boring for gas, oil, brine, coal, artesian water, clay for brick fields or sinking holes for ventilating or running electric wires into underground workings. Numerous cuts show the action of the drill and how it looks in position. Testimonials are given from prominent users, among them the West Australian Government. The drill has been used in Africa, Australia, England and in this country.

Steam and electric hoisting engines of massive construction for heavy and continuous service are described in Catalogue 9,902, issued by the C. W. Hunt Company of New York. The catalogue shows details of construction by means of numerous diagrams and half-tone cuts. The catalogue describes the Hunt steam shovel coal hoisting engines, two and three drum hoisting engines, conveyor and cable driving engines for driving coal conveyors or cable railways, electric hoists, the Hunt laminated chain, the Hunt noiseless conveyor and the Hunt system of coal handling.

Catalogue No. 32, published by Chas. P. Willard & Company, Chicago, Ill., describes the fore and aft compound engines for marine use, besides the tandem compound marine engines and united cylinder marine engines, manufactured by the company. The catalogue also contains descriptions, prices of Scotch marine boilers, Willard high-speed marine engines, Sterling marine engines, "Simplex" naphtha engines, flush-tube vertical marine boilers, submerged tube vertical marine boilers and the Willard water tube marine boiler. The firm makes a specialty of engines and equipments for light draft river steamboats, either stern wheel or double screw. The

catalogue is well illustrated and should interest all those who may think of building or buying steam boats for river or lake service.

MACHINERY AND SUPPLIES WANTED.

If any one wanting machinery or supplies of any kind will notify the "Engineering and Mining Journal" what he needs he will be put in communication with the best manufacturers of the same.

We also offer our services to foreign correspondents who desire to purchase American goods, and shall be pleased to furnish them information concerning goods of any kind and forward them catalogues and discounts of manufacturers in each line.

All these services are rendered gratuitously in the interest of our subscribers and advertisers; the proprietors of the "Engineering and Mining Journal" are not brokers or exporters, nor have they any pecuniary interest in buying and selling goods of any kind.

GENERAL MINING NEWS.

ALABAMA.

Alabama Iron and Steel Company.—The property of this company, comprising 36,000 acres of iron ore, coal and timber lands with furnaces, mills and foundries, is to be sold at auction on February 17th. The company's property is reported to have cost originally about $1,400,000.

ALASKA.

Douglas Island.

Alaska Mexican.—This company reports for December 14,598 tons ore milled and 392 tons sulphurets chlorinated. The product in gold was $28,748, or $1.97 a ton; of this $14,349 was from the sulphurets. The expenses were $24,192, or $1.66 a ton, leaving a profit of $4,556, or $0.31 a ton.

Alaska United.—For the six weeks from December 15th to January 31st this company reports 19,612 tons of ore milled. The concentrates saved and treated by chlorination were 400 tons. The total product in gold was $47,425, or $2.42 a ton. Expenses for the month of December were $22,283.

Koyukuk River.

James Deitrick, who recently returned to Seattle from the Koyukuk River and Dawson, says, according to a Seattle paper: "The Koyukuk River is some 1,200 miles long and has many tributaries of considerable length. The gravel bars for 800 miles along the river have been 'rocked on' for years by the Indians and a few white men, who have taken out a little dust and some fair-sized nuggets. The scarcity of provisions has prevented any winter mining until now. The season of bar mining is short, and it has given those who have tried it heretofore only a winter's grubstake. The tributaries and creeks have been neglected, and nothing definite is known of the richness of the placer ground.

"Running from the northwest to the southeast across the headwaters is a great belt of conglomerate, cemented gravel, which carries a low percentage of gold, not enough to pay for working in a favorable climate like California. Along the banks and extending back for miles are large deposits of gravel, which carry a very low percentage of gold and which would not pay to work even in California. Along the creeks, and even the river, one finds fair-looking quartz ledges, some in slate, diorite, granite, porphyry and in the contact. By pulverizing the quartz one finds it goes very low grade in gold.

"The extreme frost, long, cold winter and summer heat cause the conglomerate to break off and each exposure to free its mite of gold. The gravel beds and broken rock wash down into the creeks and river and free their holdings.

"At present the poor man will have a hard time of it on the Koyukuk, and I advise all who have not at least $500 cash to keep away. It is a very difficult country to reach. The Alaska Commercial Company has established a store at Bergman, about 700 miles up the Koyukuk River, where they have about 65 tons of supplies. The North American Transportation and Trading Company has established a store at Peavy, 800 miles up the Koyukuk River, where there is plenty of good timber for fuel and building purposes."

CALIFORNIA.

Slate Industry.—Last summer some prospecting was done in Merced and Mariposa counties, and an extensive bed of slate was discovered in the latter county near the line of Merced County, about 20 miles from Merced, the nearest shipping point being 12 miles. The parties interested organized the Pacific Slate Company with an authorized capital of $160,000, divided into 1,600 shares of $100 each. The quality of the slate is said to be good, but there has not been enough development to show the amount of waste and there are fears that this is excessive. The stock of the company did not sell readily and consequently the quarry is at a standstill. In Shasta County, 42 miles north of Redding, on the line of the Oregon & California Railroad's Slatonia station the quarrying and manufacture of roofing slate is vigorously prosecuted. The Shasta Slate Company was organized on November 10th, 1898, with an authorized capital of $100,000, divided into 1,000 shares of $100 each. Its principal place of business is in Oakland. Directors are William J. Dingee, president and financial head of the company; F. J. Woodward, vice-president; F. A. Losh, secretary and treasurer; W. A. Winsboro, manager, and Walter Beattie, all of Oakland. The company has leased and purchased 200 acres of slate lands, and claims to be manufacturing roofing slate of fine quality with much less than the average waste. The company recently added two slate makers from the Bangor, Pa., quarries to its force, and is arranging for several more. These new hands have shipped their slate dressing machines from Bangor and are now asking bids for hoisting machinery from the same source. The manufacture of slate began the second week in January, and over 100 squares of roofing slate were finished that month. The price f. o. b. at quarries, which are ½ mile from railroad, is from $7 to $8 per square.

CALIFORNIA.

Amador County.

(From Our Special Correspondent.)

Centennial.—This mine, near Drytown, under bond to L. A. Gross, is being examined by A. M. Womble, mining engineer, of San Francisco, in the interests of Frank H. Brown, of Melrose, Mass., and E. I. Drisko, of Boston, Mass., who accompanied him to the mine.

Watkins.—This old mine, formerly known as the Camp Contreras, in the Pioneer District, was re-located last year, and has yielded about $15,000 from near the surface. The ore in sight is said to be $30,000. The property is reported to have been bonded to San Francisco parties for $45,000.

Butte County.

(From Our Special Correspondent.)

Davis.—This old gravel mine, near Pentz, has been prospected by Campbell, Spangler & Company, who hold a bond on the property. They are now satisfied and will increase the working force and commence developments on a large scale.

Calaveras County.

(From Our Special Correspondent.)

Satellite.—At these copper mines at Campo Seco, a 44 H. P. Gasoline Hoist has been installed, and the old shaft has been cleaned out and repaired. Sinking will begin at once. An electric pump and lighting plant has also been put in.

El Dorado County.

(From Our Special Correspondent.)

Argonaut.—The recent strike at this mine, 1½ miles east of Greenwood, is deemed to be of considerable value. Years ago the Aultman Company, of Ohio, bonded this mine, built a 10-stamp mill, undercut the large low grade croppings with an adit, and then abandoned it. The strike was made near the surface, north of the "blow-out." Its extent has not been determined as yet, but samples brought by Mr. C. W. Keeny, superintendent of the Ohio Mine, contain about 25% of coarse gold.

Los Angeles County.

(From Our Special Correspondent.)

Red Rover.—This mine, 3 miles northwest of Acton, owned by a syndicate headed by Gov. Gage, of California, is being developed with good results. The last run of 125 tons of ore produced about $1,500. The main shaft is now down 370 ft., and levels are run every 100 ft. This shaft will be continued down to the 1,000, and the 10-stamp mill will be enlarged to a 25-stamp. Some very rich specimens have been taken from the first and third levels.

Placer County.

(From Our Special Correspondent.)

The Blue Lead at Dutch Flat has been found again. It was cut by the tunnel run some 780 ft. under the mountain under the lava capping. The extent of the cement gravel cannot as yet be determined.

San Bernardino County.

(From Our Special Correspondent.)

Black Lead.—This claim, in the Holcomb Valley Mining District, about 40 miles east of Victor, adjoining the Black Hawk, is said to be one of the richest finds in the Valley. A large force of men are to commence sinking at once. The property is owned by McKinney, Parazette & Ferguson.

Shasta County.

(From Our Special Correspondent.)

Bully Hill.—This property, 3 miles north of Copper City, comprises 3 claims, which are all being developed. A tunnel has been driven in about 175 ft. parallel with the ledge, and every 50 ft. the vein has been cross-cut, showing ore containing a high percentage of copper, besides good value in gold and silver.

Deakin & Taylor.—At this mine at Lower Springs, five miles west of Redding, the 10 stamp mill on the old Wiser Place, is running steadily on ore worth from $8 to $40 per ton. About 20 men are employed.

Mountain Copper Company.—All the furnaces of this company at Keswick are in operation day and night. Two new McDougall furnaces are being built and side-tracks are being laid and more dumps constructed.

Sierra County.

(From Our Special Correspondent.)

Oriental.—The water in this mine, near Alleghany, has been pumped out down to the 600-ft. level, and another pump is to be put in and a drift started on the 600. With this second pump the mine can soon be cleared from water to the lowest level, at the 670-ft. point.

Trinity County.

(From Our Special Correspondent.)

Daisy.—Development work is going on at this mine, 4 miles northwest of Lewiston. A good ledge of sulphuret ore, 3 ft. in width, has been encountered. The tunnel will be continued to the main ledge. Mrs. U. Blakemore, the owner, contemplates the erection of a mill about April 1st.

Enterprise.—The mill at this mine, 9 miles northwest of North Fork, is running steadily on good ore. The mine is worked through a tunnel. Five men are employed at the mill and in the stopes.

Yellowstone.—A cross-cut tunnel is being run to cut the ledge, and an upraise is also being made. The property, operated by the owner, R. A. Skinner, and 4 men, is located at Coleridge, on the East Fork of the Trinity River.

Tuolumne County.

(From Our Special Correspondent.)

Bonanza.—At this mine the new water wheel to run the ore crusher has been placed in position, and the mill has been started up. The work of pumping out the 200-ft. shaft has commenced, and the working force increased.

Draper.—This mine, about a mile west of Soulsbyville, near the Black Oak mines, has been purchased by F. E. Houghton, of Salt Lake, and O. S. Mills, of Cleveland, O. Machinery has been contracted for, and development work will begin at once. The old incline shaft down 350 ft. will be continued to the 800 ft. F. E. Dyer is superintendent.

Jumper.—The 40-stamp mill at this mine, 3 miles south of Stent, is running day and night. The tailings, which average about $2.50 per ton, are allowed to run off on the adjoining property, where they are impounded by other parties. It is said they are too slimy to cyanide at a profit.

Kanaka.—The main shaft at this mine, 5 miles east of Groveland, is down 60 ft. below the lowest tunnel level, and sinking will be continued. The vein continues to yield some very rich ore in spots.

COLORADO.

Boulder County.

Enterprise.—This Eldora mine is storing for its new chlorination mill, which is nearly completed. About 2,000 tons are on hand. The mill will have a capacity of 75 tons daily, and is to be ready in April.

Eugene Wilder has sold to W. A. Hooper of Boulder the Polyanthus, Blomidon and Mogul lodes in Boulder District for $6,000.

Mogul Tunnel.—A rich vein of sylvanite is reported cut in this tunnel near Eldora.

Village Bell.—A carload of high grade ore, reported to be worth over $1,000 per ton, is ready for shipment. This carload is the Eldora Mine's product of high-grade ore for one month. The low grade is not shipped.

Eagle County.

Ground Hog.—This mine, near Red Cliff, is producing some rich ore. A new strike of oxidized ore running high in gold and silver is reported. The ore shute is said to be 6 to 8 ft. wide, with 4 to 5 ft. of ore. It has been uncovered over 75 ft.

El Paso County—Cripple Creek.

(From Our Special Correspondent.)

Except for the weather, the outlook is very good. Owing to heavy snowstorms and consequent blockades on the railroads and wagon roads, ore shipments have been curtailed to some extent. Several new mining companies have been incorporated of late, and several sales of property have been reported. Considerable inquiry about Cripple Creek investments is being made by English and Eastern capital.

Abe Lincoln.—This property, belonging to the Marinette Mining Company, and being worked under bond and lease by Messrs. Clark, Trotter and others, closed down this week. The reason is not known.

Anaconda Gold Mining Company.—At the annual meeting in Denver the following directors were elected: Eben Smith, D. H. Moffat, N. H. Cone, David Rubidge, Thomas Keely, R. H. Reid and G. E. Ross-Lewin. The reports, which cover a period from August 2d, 1897, to December 31st, 1898, show the following: Ore sales, 163

tons of smelting ore, net value $91.65 per ton, $15,433; milling ore, 9,650 tons, net value $7.66 per ton, $74,261. Total, $89,694. Royalties received, $23,654. The balance sheet on December 31st, 1898, stands as follows: Mines, $5,000,000; permanent improvements, $3,529; loss and gain December 31st, 1898, $32,399. Total, $5,035,928. Capital stock, $5,000,000; bills payable, $33,500; due bank December 31st, 1898, $2,428. Total, $5,035,928. The operating expenses were $144,827. The work done amounted to 5,335 ft. of drifts, cross-cuts, raises, winzes and levels. The main tunnel is now in 4,326 ft. A large amount of work was done by lessees. New power drills will be put in as soon as the plant of the La Belle Mill Water and Power Company at Goldfield is completed.

Gold King Mining Company.—This company's $10,000 dividend is its first. The company owns several claims in Poverty Gulch, among them the El Paso, on which claim the first discovery of ore was made in the district by Bob Womack. It was soon afterward acquired by Wm. Lennox, of Colorado Springs, who incorporated the Gold King Mining Company.

Isabella Gold Mining Company.—Interest still centers around this property. The strike of rich ore is the greatest in the district for some time at least, though not quite so sensational as some of the reports would indicate. Following is a list of the shipments of the rich ore sent out since the new strike: December 24th, 55.7 tons, worth $803.80 per ton, making $44,820; December 31st, 54.9 tons, $1,033.50 per ton, making $56,760; January 12th, 53.1 tons, $740.80 per ton, making $39,370; January 22nd, 66.6 tons, value $888 per ton, making $59,176, a total of 230 tons of the value of $200,126. Besides this ore another lot of about 70 tons of about the same grade is still unsettled for. This ore came from the ninth level at 850 ft. below the surface. The shoot on this level is 325 ft. long, the rich part being 150 ft. long. The high grade ore was not carefully selected, but was taken as it came from the rich part. The shoot varies from 18 in. to 9 ft. wide, probably averaging about 3 ft. The shoot has also been opened up on the seventh level, where it is about 350 ft. long. Samples taken from the bottom of this level run from $7,000 to $93,000 per ton, from which it would seem that this level is on top of the rich part of the shoot. The ore on this level is oxidized, and in the ninth level it is the same, but has bunches of almost solid telluride of gold. Besides this rich ore, between December 20th and February 1st, about $50,000 of ore running from a little over ½ oz. to nearly 5 oz. was shipped, and some still unsettled for. The rich shoot has not been reached on the eighth level. The exact location of the shoot is not given, but it is stated to be well within the Isabella property.

Moon-Anchor Gold Mining Company.—The Gold Hill property was turned over to the English company on February 1st, Messrs. Cobb and Wilson stepping down and out, and Edgar Rickard taking charge. It is understood that the Moon-Anchor Company will give its attention to the development of its Battle Mountain property, though possibly not immediately. This property consists of the Zeolite, Bloomington and Surplus Fraction.

Fremont County.

Copper King.—A recent run of about 1 ton of ore from this claim, at the American Zinc and Lead Smelter, at Canyon City, gave returns of 10% copper, and $1.40 in gold.

Gilpin County.

(From Our Special Correspondent.)

Ore Shipments.—For the month of January the ore shipments to the outside smelters were 276 cars, or 4,858 tons, showing a gain of 36 tons over the corresponding month for 1898. This was a good showing considering the heavy snows during the latter part of the month.

East Notaway.—The last shipment of smelting ore from the lessees on the east half of this property gave returns of 37.4 oz. gold per ton.

Nimrod.—Central City parties are working this claim on Quartz Hill and have been making regular shipments of from 35 to 50 oz. net per ton. Reid Thompson is manager.

Banta-Hills Mines Company.—Matters having been arranged on the large gold, silver and lead tract owned by this company near Central City, the management is now in Denver ordering two large plants of machinery. Two new shaft houses are to be erected at once, and mining on a large scale may be looked for before summer. The main shaft on the Hill lode has produced nearly $500,000 worth of ore.

Pierce.—Sinking operations have been resumed on a contract of 100 ft., which will put the shaft down to over 300 ft. This mine is paying its lessees a handsome profit.

Wood.—A shipment of about 7 tons of uranium ore was made from this Central City mine by Messrs. Poulot & Volleque through the W. J. Chamberlain Ore Buying Company this week.

Lake County.

(From Our Special Correspondent.)

Ore Shipments and Snow.—The big storm continues, and is causing much delay in shipping An immense tonnage has been cut off entirely, and over 800 miners have been laid off on the gold belt alone. In outlying sections the snow is piled in huge blockades in every direction. The Ibex Mining Company has not shipped a pound of ore for over a week, and all the men are laid off, excepting enough to keep the machinery going. The same state of affairs exists at the Resurrection. The Ibex Railroad is completely blockaded for over 5 miles. The Dolly B. and a few other mines are shipping by sleighs in a small way, and are compelled to keep the roads open with gangs of snow shovelers. The smelters are also fighting snow with great gangs of shovelers in their yards. The snow is the heaviest that has ever fallen in Lake County or in the State.

Doris.—The storm has compelled a shutdown.

Downtown Mines.—At the Weldon the upper leads are clear of water and are preparing for work, while the lower levels are fast being drained. The Northern will be in a position to ship by March 1st.

Leadville Smelters.—The Bimetallic has 2 furnaces going, and the Arkansas Valley 9 furnaces during the big storm, but both feel the effects of slack ore shipments, and a shortage of coal and coke. The Arkansas Valley was compelled to close its roasters a week, fearing a coal shortage.

Lillian Mining Company.—The different sets of lessees are meeting with very satisfactory results. In January in the McHalton lease an enormously rich pocket of gold ore netted the lessees $10,000. The ore was found in a talc seam in porphyry, between two blue limes.

Louisville.—This old-time property, as well as Colorado No. 2 Mine of the same combination, is being operated under the management of A. F. Wuensch, who is shipping about 1,000 tons per month of silver-lead bearing ores, as well as a steady production of iron sulphides. A new shoot of lead ore, opened recently, shows an average of $5 per ton in gold.

Ouray County.

(From Our Special Correspondent.)

Bachelor.—Bids will be called for soon for the erection of a 100-ton stamp and concentrating mill at this company's property four miles north of Ouray. The mill will be patterned after one recently built in Park County. A large vein recently opened in the upper level is rich in silver, and carries some values in gold and lead.

Beaumont Sampler.—This plant will be thrown open for custom work February 15th. It has been entirely overhauled, and is in first class condition. A new double-deck Wilfley table, the first in this district, is being put in, and the plant will be run as a concentrator and sampler. Murphey & Hagerty have the lease.

Camp Bird Mines and Mills Company.—An order has been placed for 450,000 ft. of lumber for another large mill. Two more tramways are to be built from the main cable to properties which will be opened in the spring.

Caroline Mining and Milling Company.—An 80-H. P. steam engine was placed in this company's mill during January, electric power having failed lately to meet requirements. The output averages 200 tons daily.

IDAHO.

Custer County.

White Knob.—It is stated that these claims have been sold to E. J. Matthews and John W. Mackey, who intend to organize a company with $5,000,000 capital for the purpose of working them.

Idaho County.

Big Buffalo.—This group of claims in Buffalo Hump District has, it is reported, been bought by Clark & Sweeney of Spokane. The price is not stated, and the newspapers seem to have grossly exaggerated. The group comprises 3 claims, and was located by 2 prospectors 2 years ago. Capt. J. R. De La Mar's representatives examined the claim last fall, but could not make satisfactory terms with the owners. Though the snow interferes with prospecting, it is asserted that the vein on the claims is 40 ft., with a pay streak of rich ore 12 to 14 ft. wide. The property is to be worked by a stock company, to be floated in New York.

Red River Meadows.—This placer ground, 9 miles below Elk City, is to be worked by W. H. Butters & Brothers, of Spokane, Wash. The ground purchased is at the mouth of Sigel Creek and comprises 1,280 acres along Red River. The plant to be put in is a bucket dredge with a capacity of 2,000 yds. daily, built by the Bucyrus Company, of South Milwaukee, Wis.

Shoshone County.

Barton.—Some good silver lead ore has been shipped from this claim, 6 miles east of Murray.

Bell.—The owners, Finch & Campbell, are drifting and cross-cutting on this property, near Gem, on Canyon Creek, with promising results.

Empire State-Idaho.—The Supreme Court of Idaho, in the case of Kennedy J. Hanley vs. Clark & Sweeney and the Empire State-Idaho Mining Company, has overruled the action of the District Court and dismissed the receiver appointed for 11-24 of the Skookum claim, owned by the defendant corporation.

Morning Mining Company.—The development done by this company on the Black Bear, near Wallace, has opened up the ledge 580 ft. Assays are said to run 60% lead and over 30 oz. silver per ton. Joseph MacDonald, superintendent of the Helena-Frisco, has charge of the work.

Tiger-Poorman.—This mine is reported to be drifting on its lead cut in the 1,500 ft. level recently.

LOUISIANA.

Iberia County.

Avery Island Salt Mine.—The Retsof Mining Company, of Livonia, N. Y., has purchased this mine, which has lain idle several years, and proposes to work it. A new shaft is to be sunk. A large breaker for reducing the salt, and improved machinery for handling it will be put in. The Avery Island Salt Mining Company, with headquarters in New York city, is to work the mine and handle its output. H. D. Fuller is secretary.

MAINE.

Washington County.

Electrolytic Marine Salts Company.—At a meeting of the committee for stockholders in Boston, February 4th, Winslow Warren reported that of the 10,000,000 shares of stock which were originally issued, about $954,000 worth was sold. The balance stood in the name of the Rev. P. F. Jernegan. This balance had been turned over to the committee and probably will be canceled. Of the stock actually sold more than $900,000 had been turned over to the committee, with instructions to represent the holders in making the best possible settlements. With reference to the $75,000 said to have been returned by Jernegan, Mr. Warren said that the committee was not bound to settle on that basis, but admitted that the committee desires to get as much of the stock pledged to them as possible in order to speak with the fullest authority when treating with Jernegan through his counsel. The report of the expert appointed to investigate the process of extracting gold from sea water had not yet been received.

MARYLAND.

Allegany County.

Maryland Coal Company.—At the annual meeting in New York the following officers and directors were elected for the year 1899: President, John E. Knapp; vice-president, James W. Loveridge; secretary and treasurer, Henry B. Nedham. Directors, Edward M. Brown, George H. B. Hill, Michael Coleman, Edward H. Litchfield, John E. Knapp, John G. Wendel, James W. Loveridge, Charles L. F. Robinson, W. Scott Fitz and George Hewlett.

MICHIGAN.

Copper.

Duluth, South Shore & Atlantic Railroad.—General Manager Fitch has announced that the South Shore road will build a line from the Houghton division at a point near Newtonville following the valley of the Sturgeon River, and the foothills of the copper range to within two miles of the Winona, when the line will swing up on the range and continue along it. The Adventure, Mass and Michigan properties will be traversed, the line being 30 miles long. Eventually the South Range branch will be extended to Lake Gogebic, 20 miles southwest from the Michigan, where a junction will be made with the main line to Duluth. The preliminary and locating surveys for the new branch are already well along, the work having been in progress for some time.

Kaukauna Copper Company.—This projected company is to work 1,280 acres of land in sections 9 and 10, T, 52, R, 36. Capitalization 100,000 shares of $25 each. Included in the lands are the old Shawmut and Stonington properties that were explored in the sixties in a crude way. The Kaukauna property adjoins the Wyandotte on the north and the Winona Lode outcrops at the southeast corner and dips under the property. R. Skiff Sheldon of Houghton is the promoter of the enterprise.

Rhode Island Mining Company.—The stock of this company has been listed on the Boston Exchange. The capital stock is $2,500,000 in $25 shares, on which $5 per share has been paid in. The directors are Charles J. Devereaux, Samuel B. Harris, Thomas F. Mason, T. Henry Mason, L. H. Meserve, William R. Todd and John W. Weeks.

Trimountain Mining Company.—This company, with $2,500,000 capital in 100,000 shares, has filed its incorporation articles at Houghton, Mich. The Eastern office of the company is in Boston. The directors for the first year are: H. F. Fay, Stephen R. Dow, John C. Watson, Edmund S.

Clark, W. B. Mosman, Wm. H. Reed, Boston, Mass.; James Chynoweth, Calumet, Mich.

The headquarters are in Boston. Capt. James Chynoweth of the Centennial will have charge of the development of the property, which lies southeast of the Baltic, and was first called the Baltic Junior.

(From Our Special Correspondent.)

Adventure Copper Company.—This company in its small test shaft put in a short time ago is said to be finding fine rock. No machinery has yet been received at the mine, and there are no houses over the shafts, so that the recent bad weather has delayed operations materially. The new shaft is on the Knowlton vein and drifting is going on in the old levels from the old shaft.

Mass Consolidated Copper Company.—Machinery for this mine has been ordered and unwatering will be undertaken as soon as possible.

Michigan Copper Company.—This company, the old Minnesota, is sinking 2 shafts at the rate of 75 ft. per month. B shaft is down 235 ft. on the Calico lode, and A shaft is down 160 ft. and is being enlarged to 3 compartments. Six power drills are working steadily.

Rhode Island Copper Company.—This mine is being opened on the Pewabic Lode. Hoisting machinery at the new shaft is in place.

Iron—Menominee Range.

Commonwealth Iron Company.—This company's Davidson shaft is being pumped out preparatory to resuming mining.

Florence.—This mine, owned by the Florence Iron Mining Company, at Florence, is to be sold at public auction at Florence on February 27th. The company owns three-fourths of the fee, and has a long lease on the remaining one-fourth.

Iron River.—Machinery for this mine is arriving at Iron River.

Lincoln.—The work of lowering the water in this Crystal Falls mine continues.

Monitor.—This mine at Crystal Falls, which has not been worked for 5 years, is being unwatered. About 150 men will be employed under J. Brooks, foreman.

MINNESOTA.

Iron—Mesabi Range.

(From Our Special Correspondent.)

Commodore Mining Company.—This property, idle since the sheriff took possession in the name of the feeholder last fall, is to be reopened at once. It will be the only shaft worked near the village of Virginia this winter.

Franklin Mining Company.—W. C. Yawkey, of Detroit, owner of the fee to the Bessemer portion of this property, has begun suit for annulment of the lease. This property consists of the Franklin, which is a fee property, the Bessemer and Victoria, both leased from Mr. Yawkey. It is the Franklin fee that the Pittsburg & Lake Angeline has been negotiating for.

Security Land and Exploration Company.—A sale has been made of 51% of the stock, the purchasers agreeing to take all over this that is offered at $29 net to the sellers. The company was organized in the winter of 1892-3, with 10,000 shares of $10 each, to buy of the Security Bank of Minneapolis 3,600 acres of land on the Mesabi Range for $55,000. The first $5,000 of the purchase money was finally secured and the trade made, when the buyers were able to sell for $30,000 the pine on the lands, making the net cost to them only $25,000, and since have paid $260,000 in dividends, partly from sale of four 40-acre tracts and partly from royalties on ore mined. They now have one mine under lease to the Sparta Iron Company, and one unopened, the Shaw, while there are various tracts of undeveloped lands on the property that are supposed to be valuable.

Iron—Vermilion Range.

(From Our Special Correspondent.)

Chandler Iron Company.—This mine is now employing about 500 men and is hoisting from 2,500 to 3,000 tons a day. Its product for the year has already been taken to the last pound, it is understood, and some of its past buyers have been disappointed at their share.

Section 30.—The McDonald 40, on this famous section in town 63-11, has been leased to A. M. Miller and J. G. Brown, of Duluth, and will be explored at once. This is the first time any thorough effort has been made to find a mine on Section 30, and will be watched with much interest. Miller & Brown are the parties who leased to the Oliver Mining Company the property now known as the Savoy. They will pay an annual ground rent equaling about 17,000 tons of ore a year, at a 25c. royalty, and on all ore taken out 25c. per ton. The lease runs 50 years. Section 30 is four miles east of Ely, and all the intervening ground is now taken by active operating concerns.

MISSOURI.

Jasper County.

(From Our Special Correspondent.)

Joplin Ore Markets.—The weather for the week ending February 4th was the most severe known here since the winter of 1893-4, and operations all over the district were totally suspended for 3 days. In consequence the turn-in was cut down nearly one-half. The activity in the metal markets and the short output combined forced up the price of both ores, and jack went up like a rocket, advancing to $38.50 for fancy grades, or $4.50 above last week's quotations. The lower grade ores advanced from $5 to $6 per ton, and lead also opened the week $2 per 1,000 higher, selling at $27 per 1,000, which many holders refused to accept. A million and a half pounds of lead was sold at Carterville on Saturday for $30 per 1,000, but as it will not be loaded for several days yet, it does not appear in the sales for the week ending February 4th. During the corresponding week of 1898, top-grade zinc ore sold for $23, and lead ore for $21.50, and the shipments exceeded those of the week just closed by 1,107,370 lbs. of zinc and 248,240 lbs. of lead, but the value was less by $27,492. For the first 5 weeks of last year the zinc sales were less than for the same period this year by 10,247,950 lbs., but the lead sales were greater by 1,396,940 lbs., the value of both ores being less by $318,003. As compared with the previous week the output fell off to the extent of 5,105,540 lbs. of zinc and 188,150 lbs. of lead, and the value was less by $76,627.

J. W. Aylor, on the Eleventh Hour ground, at Carterville, sold a million and a half pounds of lead Saturday, which he has been holding for the past year, to a firm of Philadelphia brokers, for $30 per 1,000. He had previously refused $27 from a local buyer. N. P. Perry, at Lone Elm, also sold 225,000 lbs. at the same figure, which he had been holding for the past two months, but outside of these two sales the price for lead was $27 per 1,000.

Following are the sales of lead and zinc ore from the various camps in the Joplin District for the week ending February 4th: Joplin, zinc, 1,104,830 lbs.; lead, 353,530 lbs.; value, $29,708. Webb City, zinc, 497,480 lbs.; lead, 13,780 lbs.; value, $8,954. Carterville, zinc, 542,360 lbs.; lead, 154,270 lbs.; value, $13,521. Oronogo, zinc, 735,870 lbs.; lead, 36,480 lbs.; value, $13,983. Duenweg, zinc, 268,800 lbs.; value, $4,435. Central City, zinc, 151,140 lbs.; lead, 8,400 lbs.; value, $2,948. Stotts City, zinc, 209,180 lbs.; value, $3,452. Galena-Empire (Kansas), zinc, 1,418,860 lbs.; lead, 220,170 lbs.; value, $31,485. Belleville, zinc, 84,710 lbs.; value, $1,609. Heil's Neck, zinc, 60,110 lbs.; value, $1,050. Alba, zinc, 60,000 lbs.; value, $1,125. Carthage, zinc, 80,000 lbs.; value, $1,540. Lehigh, zinc, 17,700 lbs.; value, $327. Aurora, zinc, 545,000 lbs.; lead, 40,000 lbs.; value, $7,405. Granby, Newton County, zinc, 124,000 lbs.; lead, 2,200 lbs.; value, $1,920. Moseley mines, Newton County, silicate, 360,000 lbs.; value, $2,700. Total district value for the week, $126,162. Total zinc, 6,260,040 lbs.; total of lead, 828,830 lbs. District total for five weeks, zinc, 49,997,380 lbs.; lead, 4,616,010 lbs.; value, $855,112.

One hundred and eighty tons of silicate were shipped to Belgium during the week ending February 4th; and 120 tons of zinc ore were shipped to England by A. O. Ihlseng.

Ohio.—A contract has been let for a 100-ton mill on this ground, at Galena, and work will begin at once. The mill will be an exact duplicate of the famous Star mill, on the ground of the Galena Lead and Zinc Company.

Roberta Mining Company.—W. B. Kane, of the First National Bank, of Carterville, has been appointed receiver for the Roberta Mining Company, at the request of the owners, who have a good mine, but were hampered by too rapidly maturing obligations.

MONTANA.

Deer Lodge County.

(From Our Special Correspondent.)

Bonanza Mining Company.—This company, in the Zosel District, has reached the lead in the tunnel, and shipments are going to the East Helena smelter.

Masculine.—This property, two miles from Garnet, has been purchased by Eggleston & Sturgeon. The ore is said to carry a good per cent. of copper.

Nancy Hanks.—Sam Richie is in Butte with a 100 ton shipment of ore, mostly from the winze, which is now 100 ft. deep.

Shamrock.—This Garnet property is putting in a new plant of machinery. Stoping and drifting will give way to sinking as soon as the machinery is in place.

Jefferson County.

New Elkhorn Mining Company.—Superintendent W. S. Kelley's report for the quarter ending December 31st for the mine and mill at Elkhorn states that the mill was overhauled in October, resulting in a better saving of values. The amount of ore panned was 2,668 tons, with an average assay value of 35.0 oz.; the tailings averaged 6.7 oz., making the per cent. saved 83.3. The net value of the bullion was $50,028; of the smelting ore (401.5 tons), $33,945; total receipts, $83,973; total expenses, including air compressor, $79,913; total profit, $4,060.

(From Our Special Correspondent.)

Bunker Hill.—This old Gregory property has been leased and bonded to Warner & McCrea for $10,000. During the life of the Gregory Smelter this was one of its chief ore producers.

B. & G. Consolidated Mining Company.—The company that has been working the B. & G. group under lease and bond for $50,000 has taken up the bond and organized under the above name, with a capitalization of $125,000, divided into 500,000 shares of 25c. each. The trustees are R. A. Bell, owner of East Pacific Mine; A. L. Smith, president Montana National Bank; C. W. Whitley, manager East Helena Smelter; J. J. Hindson, of Helena, and C. E. Gable, superintendent. The output will be increased to a car a day.

King Solomon.—The ore body has enlarged to 18 in. of high grade complex silver ore, which samples 200 oz.

Myers.—Butte people have equipped this property with machinery under a $10,000 lease and bond.

Park County.

Bear Gulch Mining Company.—This company has been employing 50 men all winter and the 20-stamp mill has been busy. Concentrates go to the East Helena smelter.

Independence Camp.—At this camp on Boulder River E. H. Cowles has 40 men developing his claims. Graham & Newell have given an option on a group of copper claims to Butte parties, who are running a 1,400 ft. tunnel.

Milwaukee-Montana Natural Bridge Gold and Copper Mining Company.—A. D. McNulty, J. M. McNulty and Charles T. McElroy have transferred to this company the Great West, Minnie, Minnie Extension, Standard, Natural Bridge and Minnie L. claims in the Natural Bridge District, not far from Livingston.

NEVADA.

Lincoln County.

(From Our Special Correspondent.)

Searchlight Camp.—Many of the miners of the Randsburg, Cal., District are emigrating to this camp, located about 100 miles north of Needles, San Bernardino County, Cal., and 200 miles east of Randsburg. A number of high grade gold quartz veins have been discovered and are being developed. Further down and near the Colorado River, the mines of Eldorado Canyon, the Capital Group, Flynn Camp and McKay's, are increasing their output, which all passes through Needles as the nearest shipping point.

Storey County—Comstock Lode.

Belcher Mining Company.—At the annual meeting last week directors were elected as follows: James Newlands, president; W. G. Morrow, vice-president; J. P. Martin, George D. Edwards and James Newlands, Jr. W. E. Sharon was appointed superintendent, F. E. Deitz secretary, and the Bank of California treasurer.

Comstock Pumping Association.—The superintendent has added another shift to the force of miners employed in repairing the connecting drift leading from the Sutro tunnel level of the Gould & Curry and Best & Belcher workings to the Obiston shaft. The drift has a length of 900 ft., of which repairs to 270 ft. are completed, and rapid progress will be made since the addition of another shift.

Ophir.—It is understood that when the work of repairing the Sutro Tunnel north lateral branch to the Mexican line is completed a west drift will be run by the Ophir Company from the tunnel lateral to connect with the Ophir incline. This will run mainly through ground never before opened.

NEW MEXICO.

Grant County.

Confidence.—This mine in the Mogollon District is working 75 men. The main adit level is in 1,700 ft. An electric hoist was put in recently.

Santa Rita Mill.—Messrs. Crawford & Derbyshire, under contract with the Hearst estate, are erecting a concentrating plant of 75 tons daily capacity at Santa Rita.

Lincoln County.

Parsons.—This silver mine in the White Mountain country, not far from Lincoln, has been sold to the Leiter syndicate of Chicago. A large plant will be erected and the mine will be fully developed.

(From Our Special Correspondent.)

El Paso Northeastern Railroad.—This road is under contract to be built to coal fields at Gray, near Nogal, by June 1st. The railroad company is said to own 12,000 acres of coal land and will begin immediate development on a large scale.

Little Mack.—This White Oaks mine has produced very rich specimens and not much ore.

North Homestake.—The shaft is 1,065 ft. deep and in good condition. It has levels every 50 ft. Considerable free milling ore is exposed running $12 to $15. No water at any depth. The mine is owned in Denver, Colo., and is in condition to operate.

South Homestake.—The dump at White Oaks, which also includes tailings of Old Abe Mine, is being worked by White Oaks Building and Lumber Company, by a 30-ton cyanide plant. About 10,000 tons have been treated and there are about 15,000 tons more to be treated. Cost of treatment is said to be $1 per ton, and $2.50 per ton is recovered, while repeated assays of tailings show an average of at least $5. The South Homestake Mine is idle. It has full equipment of mining machinery and 20-stamp mill; shaft 600 ft. deep, with levels every 50 ft. Some levels have ore in sight worth $10 per ton. Ore streaks vary in size. The mine is owned in St. Louis, Mo.

NEW YORK.

Slate.

(From Our Special Correspondent.)

All the red slate quarries about Middle Granville, except the R. B. Pritchard Eagle red slate quarries, have stopped operation since January 1st.

John Spencer and W. L. Roberts have leased a tract of land on the Fyfe estate, near Middle Granville, to open a purple quarry for producing roofing slate and slate mill stock.

OHIO.

Harrison County.

Scio Oil Field.—It is stated that the average depth at which oil is found is about 1,200 ft.; the price paid for drilling varies from 55c. to 70c. per foot, and the total cost of a hole finished is about $2,200. The average settled production of the producing wells is 40 bbls. daily. The Berea Grit, in which the oil is found, is about 35 ft. thick and the oil is found midway in it.

The number of producing wells on February 1st was 48, and the daily production was 2,180 bbls.

OREGON.

Baker County.

Cornucopia.—A party of Youngstown, O., capitalists, headed by Robert McCurdy and John C. Wick, and capitalists of New York and Milwaukee have, it is stated, taken an option on this mine. The price to be paid is $600,000. John E. Searles of New York is the present owner of the mine.

Grant County.

Great Northern Gold Mining Company.—At this Canyon City mine work is reported to be progressing finely under Manager Ike Guker. A 10-stamp mill is to be erected in the spring.

Prairie Diggings.—A 10-stamp mill is to be erected on this property near Canyon City. W. Potter, who built the Red Bay Mill, is to have charge of the work.

PENNSYLVANIA.

Bituminous Coal.

A movement is on foot to have a new trolley line erected which will travel from Mt. Pleasant to Connellsville, taking in all the coke villages down the Mt. Pleasant branch, and having connections at Broad Ford with other lines, which will make a grand union with the lines now extended from Pittsburg as far as Versailles, above McKeesport. The line will in all probability be built this spring.

Slate.

(From Our Special Correspondent.)

Foreign Shipments.—The first large shipment this year was 65 carloads to Cardiff, Wales, sent by George K. Snook, last week.

New Slate Fields.—The Chestnut Ridge Railway, now building to Kunkletown, Monroe County, is expected to start work on valuable slate deposits at the foot of the Poemo Mountains.

Slaters' Union.—The Slaters' Union of the State of Pennsylvania has just been permanently established. Branches are already in operation at Bangor and Pen Argyl, with Wind Gap and Slatington organizing. The present membership is 1,500. William Harding, Jr., Pen Argyl, is president.

Columbia-Bangor Quarry.—A new 80-ft. tower derrick and additional cable has been erected.

East Bangor Consolidated.—This company has re-elected its old board of directors with the following officers: President, S. C. Smith; treasurer and manager, William Bray; secretary, B. W. Ribble.

Eureka Slate Company.—The following officers and directors of this company have been re-elected: President, Thomas Zellner; secretary, F. A. Kreitz; treasurer, R. F. Muschlitz; Reuben Helfrich and Morris Hoats. Last year the quarry, at Slatington, produced 14,000 squares roofing slate 1,000,000 school slates, and 40,000 ft. of blackboards.

Imperial Slate Company.—This company elected the following officers: President, J. J. Heintzelman, of Nazareth; secretary, T. T. Flint, of Stroudsburg; treasurer, Alvin Metzgar, of Stroudsburg; directors, H. J. Kotz, Dr. J. P. Mutchler, Charles Bell and George F. Heller, of Stroudsburg, and J. J. Heintzelman. A radical change has been made in the management, and new capital invested. The company will resume operations March 1st, manufacturing structural slate principally.

North Bangor Slate Company.—This company is building a 33 by 50 ft. addition to its mill. It will begin the manufacture of slate tubs, complete, on March 1st.

Phoenix.—This Danielsville quarry has been abandoned by the lessees, Harding & Jackson.

SOUTH DAKOTA.

Lawrence County.

(From Our Special Correspondent.)

The weather in the Black Hills has been the coldest known for 20 years, with the thermometer registering 30 below zero for 10 days. The ore trains which make the Bald Mountain mines have abandoned portions of the line and the mines in the Portland and Crown Hill districts have been compelled to close down. Snow is very deep and drifted badly. Water is so scarce for the mills that many are running only half force.

Chicago & Two Bit Company.—It is stated that James D. Hardin, the original promoter of the Two Bit deal, has sold his interest in the Chicago & Two Bit Company, and that he will devote his time to carrying out his original plan of erecting a smelter on the Redwater property 9 miles north of Deadwood, which he purchased a year ago.

Deadwood-Terra.—The 160 stamp mill at Terraville, which has been idle since last spring, owing to the burning of the hoisting plant, is now running full capacity.

Galena Mining & Smelting Company.—William Archer and H. H. Armstead, the former a heavy stockholder and the latter the company's mining expert, have been in the Hills. A small force of men is at work on the company's claims at Galena taking out ore from the Nevada claim and doing some prospective work.

Hardin Standard Mining Company.—All the property of this Two Bit Company, including hoisting plant, shaft house, boilers and other machinery and the Standard group of 5 claims, has been sold at sheriff's sale to satisfy judgment held by Henry A. Tortat, for the sum of $1,993. This was the first of the Hardin companies to begin operations in Two Bit, and it has done the most development work.

Ulster.—A rich strike of ore was made this week in this mine, at Ragged Top, owned by A. J. Smith and associates. The surface has been producing ore for some time. A tunnel was run lower down, and they found ore about 200 ft. below the upper workings. The lessees of the surface are shipping a carload of high-grade ore per week.

Pennington County.

(From Our Special Correspondent.)

Gilt Edge Chlorination Works.—The first clean-up from this plant has been made on Gilt Edge ore. The plant is treating about 50 tons of ore per day. The company has sunk the shaft on the Doldode claim.

Hornblende District.—Preparations are made to run 40 tons of ore from the Blair Group through the Montezuma Mill at Rochford. On this group a shaft has been sunk 50 ft. The ore has a value of about $8 a ton gold.

Keystone District.—James S. George, president of the Holy Terror company, has made a proposition to the owners of the Chilkoot group of claims, near Keystone, for a half interest in the property. Mr. George is to sink the shaft 300 ft. and equip it with best machinery.

Uncle Sam Mine.—Repairs are progressing rapidly upon the mill and hoist in Elk Creek District. A company, organized by Archibald Ware, of Deadwood, has purchased the property, and active mining will begin within 30 days.

TENNESSEE.

Campbell County.

Lafollette Coal, Iron and Railway Company.—This company has been organized and chartered, with an authorized capital of $2,000,000, to develop a tract of 60,000 acres of coal and iron lands in this county. The company also acquires 1,000 acres for a town site for Lafollette.

UTAH.

Juab County.

(From Our Special Correspondent.)

Northern Light.—The last shipment of ore is reported to have returned values of 12.5 per cent. lead, 409 oz silver and $8 gold per ton.

War Eagle.—At this Tintic claim some good veins of ore are reported cut, running well in silver, copper and lead.

Tesora Mining Company. — Incorporation articles were filed with the Secretary of State on January 13th. Capitalization $400,000; shares $1; stock assessible. Principal office is at Salt Lake City; annual meeting third Monday in January. Officers and directors are: J. H. Stallings, president; C. K. McCormick, vice-president; J. T. Hodson, secretary-treasurer; J. H. Stallings, Jr., George Sutherland. Messrs. Stallings reside at Diamond, the others at Salt Lake City. Realty consists of Tesora, Independent, Goldfield, Snow-Flake, Flagstaff lode claims in Tintic mining district.

Tooele County.

(From Our Special Correspondent.)

Grey Rooster.—The shaft in this Mercur claim is down 200 ft., and the prospects are reported good.

La Cigale.—The mill is running steadily, handling 140 daily. The per cent. recovered is reported to be quite satisfactory.

Lion Consolidated.—At this Stockton property the working tunnel has cut the ore body at a depth of 150 ft. beneath the upper levels. The ore is galena.

New Mammoth.—A 5 ft. body of good ore is reported cut 300 ft. in the main tunnel. The new mill will be near the mouth of this tunnel.

Omaha.—Two inclines in this Mercur property are down 300 ft. The ore is reported to be 12 ft. thick.

Salt Lake & Mercur Railroad.—A preliminary survey has been made from the Mercur terminus to West Dip and Ophir. Manager Jacobs states that the road will be extended to the latter point before the end of the approaching season.

WASHINGTON.

Stevens County.

(From Our Special Correspondent.)

Anaconda.—The tunnel is now 35 ft. under cover, and running diagonally toward the vein.

Ben Hur.—The drift has followed the vein 250 ft. Porphyry has again come in on the ledge. The ore runs from $20 to $50 per ton.

Bodie.—The shaft is down 91 ft., following the foot wall of a strong quartz vein. No hanging wall has been touched. The Bodie claim lies south of the San Poil and west of the Eureka Queen, and is crossed by the San Pail vein from end to end.

El Caliph.—The vein has been stripped 50 ft., showing it from 6 to 18 in. wide. A shaft is down 12 ft. A tunnel under way is in 40 ft. In 240 ft. further it will tap the vein, 170 ft deep.

Flag Hill.—This is an undeveloped property, situated on the Iron Mask and Morning Glory veins. The latter passes from the Morning Glory claim through the El Caliph, and thence into the Flag Hill. There are also two other veins on the claim. All will be stripped to develop pay shoots, the work to begin immediately.

Georgie Reed Group.—Rich ore has been struck on these claims, 12 miles south of the Republic, above the West Fork of the San Pail River.

Golden Eagle.—This claim, northeast of the Morning Glory, is on the same vein. An open cut discloses the vein, with from 2 to 6 in. of quartz.

Golden Lilly.—The tunnel is in 80 ft., and may cut the vein any day.

Iolatha.—This claim is thought to carry a continuation of the Surprise vein. The croppings show iron-stained quartz. Assayer reports its values at $1.65, $2.10, $4.13 and $12.40 per ton. A shaft is being sunk upon the vein. The claim is 1,130 ft. long, 300 ft. wide at one end and 10 ft. at the other.

Iron Monitor.—The tunnel is in 270 ft., and still shows stringers of quartz.

Jumbo.—Recent work consists of open cuts across the croppings. A shaft started at 500 ft. from the north end of the claim, follows the foot wall, showing quartz 7 ft. wide, with the hanging wall not in sight.

Mark Tapley.—Some prospecting has been done on this claim, but so far without results.

Merrimac.—A 2-story boarding house has been erected. In the mine, drifting continues eastward at the rate of 4 ft. per day.

Morning Glory.—The shaft is down 20 ft. The tunnel is in 40 ft., the dump showing no results, as yet, of any importance. The quartz at the surface was very rich in native gold.

Palo Alto.—The tunnel is in 165 ft., with the breast in solid quartz of good milling value.

Princess Maud.—The tunnel is in 365 ft. and no change is reported.

Quilp.—The tunnel is in 200 ft. It strikes the vein at 80 ft. in and passes through 60 ft. of broken ledge matter and 20 ft. of quartz, the latter having an average value of $16 per ton. Another vein, at the end of the tunnel, has been opened 150 ft., showing in some places very good quartz. A shaft has been sunk from surface 50 ft. and the ledge cross-cut from its bottom toward the foot.

San Poil.—The raise from the lower tunnel is up 38 ft. in ore 4½ ft. wide. Assays are fair, but not as good as usual. A winze is being sunk on the No. 1 tunnel to connect with the raise.

Trade Dollar.—The drift is in 140 ft., passing through the vein into broken ground. A winze sunk in this ground 40 ft. probably will soon strike the ledge again. The vein is only 4 or 5 in. at the top, but a new shaft, down 15 ft., shows the vein rapidly widening. The filling is broken quartz, clay and talc, etc., the clay being thickly matted with iron sulphides and

arsenides. The Jumbo lead also passes through the Dora claim.

Troubadour.—A shaft has been started on the ledge, and preparations are in hand for continuous work.

WEST VIRGINIA.

(From Our Special Correspondent.)

The coal operators of New and Kanawha rivers are holding a meeting in Charleston to try to form a combination to raise the price of West Virginia coal, which at the present time is very low.

Kanawha County.

About 60 concerns were represented and an agreement was reached to put all the business of all the operators under one head, to be dominated by a board of directors representing all interests. No changes will be made in wages. Trade efforts will be directed toward both Eastern and Western rail markets and the lower Ohio and Mississippi River markets, and rates will be made to suit the exigencies of Pennsylvania, Ohio and Illinois competition. Particular attention will be given to railroad traffic.

FOREIGN MINING NEWS.

AUSTRALASIA.

Tasmania.

Mount Lyell Mining Company.—This company reports for the four weeks ending January 11th a total of 12,118 tons of ore smelted. The return was 249 tons blister copper, containing 247 tons fine copper, 25.881 oz. silver and 1,054 oz. gold, an average of 2.05% copper, 2.14 oz. silver and 0.09 oz. gold, to a ton of ore.

CANADA.

British Columbia—West Kootenay District.

(From Our Special Correspondent.)

Shipments at the Le Roi have been suspended for 10 days in order to complete the skip from the 700 to the 800 ft. level, when shipments will be resumed at the rate of 250 to 300 tons per day. The main shaft will shortly be deepened to the 900 ft. level. A new electric plant is about to be installed at the incline from the Black Bear tunnel. The final payment to the late minority interest has been made by the British America Corporation.

British America Corporation.—The reported proceedings taken against this company by J. B. McLaren, a holder of some shares in the Le Roi company, are not seriously regarded by the management in Rossland. It is understood that the British America Corporation, acting on legal advice, some time ago made the necessary arrangements to enable that company to carry on mining and smelting in the State of Washington, so that it has little to fear from the McLaren hold-up.

Center Star Gulch.—Extensive improvements are being made. The Canadian Pacific Railway is bridging this gulch with a trestle, and shortening its line to the Le Roi and War Eagle.

Deer Park.—The management of the Rossland Mine is now shipping 20 tons daily to the Trail Creek smelter.

Dundee.—The mill at this Ymir mine started up on January 24th with a daily capacity of 50 tons. The mine is connected by 1,600 ft. of 3-rail granty tramway. The plant comprises a 60 H. P. engine, 2 35 H. P. boilers, a Pelton wheel for electric lighting, a Blake crusher, Challenge ore feeder, coarse screens, 2 sets of rolls, 3 conical swing screens, hydrometric coater, Lever's slime tanks, 3 compartment Hartz jigs, 2 Wilfley concentrating tables, and a double-decked buddle. The development work done is 450 ft. of levels and 260 ft. of main shaft, with ore between the walls, 18 in. wide, showing values from $8 to $75. The shipments to Nelson realized from $35 to $52 per ton in carload lots. About 40,000 tons of ore have been stoped out. The mine has been developed and brought to its present state of prosperity by J. L. Parker, superintendent. The mill was erected under the direct superintendence of Charles Parker, the manager.

Evening Star.—Roy H. Clarke authenticates the strike recently reported.

War Eagle.—The new electric plant has not yet been put in operation, but it is almost ready.

RUSSIA.

Siberia—Pacific Province.

A company is in course of formation at Vladivostok to work some gold placers recently discovered in the valley of the Oussouri River.

The Government has ordered explorations to be made of the coal-field near Khabarovska, where several outcrops of coal have lately been discovered.

SOUTH AMERICA.

Bolivia.

A dispatch from Lima, Peru, to the New York "Herald" says: "Advices from Bolivia state that the Supreme Court at Sucre has granted possession to Henry Claxton Harrison of the rich and wide famed tin mines at Huanuni, near Oruro."

COAL TRADE REVIEW.

New York. Feb. 10.

Anthracite.

A feeling of confidence pervades the anthracite coal trade regarding the outlook. Predictions are freely made that the consumption will be the heaviest for several years and that the year is going to be a good one. Certainly it has started well. The January production was in round numbers 3,700,000 tons, or 600,000 tons more than in 1898. The amount is decidedly larger than was expected, yet, thanks to the weather, stocks have not accumulated.

The present cold snap is finishing many supplies of coal laid in last fall, and buying during the latter half of this month, and March should be unusually active.

Talks of "agreements" and "pacifying the independent operators" continues. The fact that some of the companies are working less than full time is used as an argument on Wall Street to prove that the companies are restricting production. As a matter of fact prices have been weak all winter, and except for chestnut and pea the supply at ruling quotations has fully equalled the demand. The companies that are working short time are selling all the coal the market will take at current prices. The simple fact is that productive capacity is now far in excess of demand, and the opening of new fields and the erection of new breakers indicate that it is likely to remain in excess.

The talk of a new road, the New York, Wyoming & Western, to be built by the independent operators, continues. The gist of the matter seems to be that the independent operators are not particularly anxious to build the road, but have determined to build it unless they secure more favorable traffic arrangements from the anthracite roads. It has been suggested that the company with $20,000,000 capital mentioned last week that was to take the excess monthly production of the independent operators and dispose of it "in such a way as not to disturb the market" may be going into the export business. At least, certain Western newspapers have contained references to a line of colliers that is to run to Europe as the result of a recent effort to work up a foreign market.

Trade in the West is very active and supplies of coal are seen to be short. This shortage is likely to be felt both at the head of the Lakes and in Chicago territory. Were it not that roads built to haul coal to tide do not care to let cars go West, a large amount of coal would go forward by rail. Inland trade at all Eastern points is good. Seaboard trade is best about New York. Boston had good stocks on hand and trade has been slack there, but the present cold wave is expected to bring buyers into the market again. Prices show little change, for, as previously noted, coal has been in liberal supply all winter, and we continue to quote free burning white ash f. o. b. New York: Broken, $3.20; egg, $3.35; stove, $3.60; nut, $3.55.

Bituminous.

The demand for spot cargoes in the Atlantic seaboard soft coal trade is heavy, and the prevailing weather will in all probability increase it. Spot coal is now worth anywhere from 20 to 50c. above the regular quotations. The storm has not only laid up vessels temporarily, but has prevented work at the piers at shipping ports. Loading coal on board has been difficult work. Car loads are sometimes frozen solid, so that coal has to be barred apart. A number of contracts are closed for the coming season, and operators are now taking business wherever they can get it. The prices realized on the contracts taken are reported to be slightly below last year's f. o. b. figures. All producers fight shy of delivered and alongside prices, but some such contracts have been taken.

Trade in the far East is quiet and can apparently be taken care of by the vessels available. Some spot cargoes taken to cover pressing wants where consumers had waited till the last moment were taken at advanced figures. Some producers who have contracted more heavily than others are in hardships, having to buy at a high rate to cover their own contracts with consumers. Long Island Sound trade is active and is bound to feel the cold weather. New York Harbor trade is fairly active and consumption is heavier than usual. All rail trade is large. There is a continued heavy demand for coal for export.

Transportation from mines to tide is slow, and will not be improved by the present storm. Car supply is still limited to about 75% of the full demand. Various roads are looking for accumulations of tonnage at tidewater, and taking action when any increases show unduly. In the coastwise vessel market, vessel supply and rates are determined by the weather. Before the present storm rates were on a basis of $1.50 to Boston and $1 to Sound ports from Philadelphia. But during the gale, when vessels are stormbound, freight rates jump so that it is impossible to give any figure as current.

Birmingham, Ala. Feb. 6, 1899.

(From Our Special Correspondent.)

There is nothing new in the report concerning the coal trade in this district. The demand is as active as ever before, and the mines are working hard to keep up. A tow of coal is now being loaded for shipment down the Mississippi River from Greenville, Miss., to the markets in lower Mississippi and New Orleans; 6,000 tons of coal will be carried down on the trip from the Walker County mines.

There are indications that on the first of March the miners in this district will get an advance in wages. According to the agreement between the companies and the miners, the price of pig iron regulates the price of coal mining. At present the pig iron quotations are on just below the price necessary for the coal miners to get a better price.

Within another month the Pioneer Mining & Manufacturing Company will be mining coal from its new mines at North Birmingham. The railroad to the mines is nearing completion, and as soon as machinery can be carried to the mines operations will commence.

The Sloss Iron and Steel Company will open a new mine at Brookside, 15 miles west of Birmingham. A new mine is being opened ½ mile from Cardiff, 17½ miles from Birmingham.

The export trade is picking up, while the transports plying between the Southern ports and Cuba and Porto Rico are using coal from the Birmingham district.

The by-product plant at Ensley, recently damaged by fire, now has 60 coke ovens in blast, and will before long put the other 60 in. The buildings which were destroyed by fire are being rebuilt rapidly, and in a couple of months will be completed.

The miners' organization in this State elected George Young, of Blocton, president, vice W. R. Fairley, resigned, to accept a position on the National Executive Board of the organization. The miners of Kentucky, Tennessee and Alabama will hold an interstate convention in Chattanooga, Tenn., in May. No trouble is anticipated in this district this summer. The new contract will be signed about June.

Chicago. Feb. 8.

(From Our Special Correspondent.)

Anthracite Coal.—Continued cold weather has created an enlarged demand for hard coal, both the wholesale and retail trade having about all they can attend to, and the prospect is for at least another week of continued favorable business. Such has been the demand for coal that jobbers as a rule have found themselves with a very short supply, and in consequence they have been rushing into the market right and left. There is a continued scarcity of chestnut size, and shipments to town will not nearly equal demand for weeks to come. Circular price is now $5 per ton, and it holds well, though prospects are that after the cold spell $5 per ton will be considered excessive, and buying will again settle down to a basis of just enough for actual wants.

Bituminous coal is in fine demand, and prices have stiffened to some extent. Buying orders have come in from the North and Northwest, and with the big demand from city, activity is at its height. Manufacturing concerns and large buildings have been compelled to take more coal during the past couple weeks because of the frigid weather, a temperature of 15 deg. below zero for several days having compelled them to burn large quantities of soft coal for heating and other purposes. Receipts of soft coal are now large, but with present trade there is none too much coal coming to town.

Coke finds a good market, its demand having increased of late, iron and other metallurgical industries having bought considerable. Prices are firm and likely to go higher.

Pittsburg. Feb. 9.

(From Our Special Correspondent.)

Coal.—The market was firm, with a good demand for all purposes; since the settlement of the wage question a number of large contracts have been closed in the rail and river district. Prices, however, are down to a very low figure; the fact is, there is entirely too much coal mined for the good of the trade, and this, with competition, is the cause of such low prices.

The district fight is getting hotter. President Dolan issues an emphatic protest against the National Executive Board coming here.

The mines along the river are in full operation; the outlook for the continuance of the present activity is very good; all the coal ready started for the South. Osborne & Company, of Cleveland, who own several mines in the Pittsburg District, have purchased from the Ohio & Pennsylvania Coal Company the Euclid Mine, on the Baltimore & Ohio Railroad. The mine is located in the thick vein district, and produced 30,000 tons in 1897. Negotiations are pending looking toward a consolidation of the lake shippers, but nothing definite has developed as yet.

The Vesta Coal Company purchased within a few days about 900 acres of coal land in East

and West Pike Run townships, Washington County; the price paid was $175,000.

A. B. Fleming, a Pittsburg operator, has leased land at Benwood to open a coal mine. This will supply with coal the Pittsburg division of the Baltimore & Ohio Railroad; about 150 men will be employed.

The first February coal run is on; the shipments the past 48 hours will reach about 3,000,000 bushels to Southern and Western markets.

Connellsville Coke.—The coke trade is climbing to the pinnacle of prosperity. Production leaped up wonderfully last week. One hundred ovens at Donnelly, and 35 at Stewart turned out coke for the first time in many months. The firing of ovens is going on all over the region this week, orders have been issued to the Leisenring plants and some of the McClure Company's plants in the north end of the region. There is a constant bustle about the offices of the coke companies. January production 639,091 tons. The number of cars shipped was 36,144, representing 640,037 tons. Ovens in the region, 18,643 ovens; in blast, 15,681. Estimated production, 160,331 tons; increase over the previous week, 567 cars.

The H. C. Frick Coke Company continued its coke shipment over the Baltimore & Ohio to Locust Point, Md., for export to Mexico.

The shipments were as follows: To Pittsburg, 3,112 cars; sent West, 4,829 cars; to points East, 1,410 cars. Total, 9,351 cars.

SLATE TRADE REVIEW.

New York. Feb. 10.

The list of prices per square for No. 1 slate standard brand f. o. b. at quarries is given below:

Prices of Roofing Slate.

Size, inches	Monson or Br'n ville.	Bangor.	Bangor Ribbon.	Alb'n, or Jackson Bangor.	Lehigh.	Peach Bottom.	Sea Gr'n.	Unfad'g Green.	Red.
	$	$	$	$	$	$	$	$	$
28 x 14	.....	....	.....	.....	....	.....	2 50	....	....
26 x 14	.....	....	.....	.....	....	.....	2.50	.....	....
24 x 16	.....	....	.....	.....	.....	4.75	.....	.....	....
24 x 15	.....	....	.....	.....	.....	4.75	.....	.....	....
24 x 14	6.10	3.35	2.90	3.10	3.50	4.85	2.50	3.50	.....
24 x 13	.....	....	.....	.....	.....	4.85	.....	.....	.....
24 x 12	6.60	3.35	2.90	3.10	3.50	5.00	2.50	3.50	.....
24 x 10	.....	.....	.....	.....	.....	5.00	.....	.....	.....
22 x 14	6.10	.....	.....	.....	.....	5.00	2.40	3.50	.....
22 x 13	.....	.....	.....	.....	.....	5.00	.....	.....	.....
22 x 12	6 60	3.50	2.90	3.10	3.50	5.00	2.50	3.50	....
22 x 11	6.50	3.50	3.00	3.10	3.75	5.00	2.75	3.75	.....
20 x 14	6.40	....	.....	.....	....	.....	2.40	3.50	....
20 x 13	.....	.....	.....	.....	.....	5.00	.....	.....	.....
20 x 12	6 90	3.50	3.00	3 10	3.75	5.00	2.50	3.75	.....
20 x 11	6.80	.....	.....	3.35	.....	5.00	2.50	3.75	.....
20 x 10	6 80	4.00	3.25	3.35	3.80	5.10	2.75	4.00	10.50
18 x 18	.....	4.00	.....	.....	.....	.....	.....	.....	.....
18 x 14	6.50	....	.....	.....	....	.....	.....	.....	.....
18 x 12	6.80	3.50	.....	3.10	....	5.00	2.50	3.50	....
18 x 11	7.00	....	.....	.....	....	5.00	2.50	3.75	.....
18 x 10	7.20	4.00	3.25	3.35	3.80	5.10	2.50	4.00	10.50
18 x 9	7.10	4.00	3.25	3.35	3.80	5.10	2.50	4 00	10.50
16 x 16	7.00	4.00	.....	.....	.....	.....	.....	.....	.....
16 x 14	.....	4.25	.....	.....	.....	.....	.....	.....	.....
16 x 12	6.80	3.50	.....	3.10	....	.....	2.40	3.50	....
16 x 11	6.90	....	.....	.....	.....	5 00	.....	.....	.....
16 x 10	7.10	3 75	3.25	3.35	3.80	5.00	2.40	4.00	10.50
16 x 9	7.00	4 00	.....	3.35	3.80	5.10	2.40	4.00	10.50
16 x 8	7.20	4.00	3.15	3.35	3.80	5.10	2.40	4 00	10.50
14 x 14	7.00	4.00	.....	.....	.....	.....	.....	.....	.....
14 x 12	6.50	....	.....	.....	....	.....	2.25	.....	.....
14 x 10	6 60	3.50	3.15	3.10	3 75	5 00	2.25	3 75	10.50
14 x 9	6.50	....	.....	.....	3.40	4.85	2.25	3.75	10.50
14 x 8	6 60	3.50	3.15	3.10	3.40	4.85	2.25	4.00	10.50
14 x 7	6.40	3.50	3.15	3.10	3.40	4.85	2.20	4.00	10.50
12 x 10	5.80	3.50	.. ..	....	.....	4.60	2.20	3.25	.....
12 x 9	5.60	....	.....	.....	....	4.60	2.20	3 25	....
12 x 8	5.50	3.25	.....	3.10	3.25	4 60	2.20	3.25	9.00
12 x 7	5.00	3.25	.....	3.10	3.25	4.60	2.20	3.25	9.00
12 x 6	4.80	3 25	....	3 10	3.25	4.60	.....	3 25	8.50
11 x 10	....	3.50	.....	.....	.....	.....	.....	....	.....
11 x 8	4 50	....	.....	.....	.....	.....	.....	.....	.....
11 x 7	4.00	....	.....	.....	.....	.....	.....	.....	.....
10 x 12	.....	....	.....	.....	.....	.....	.....	.....	.....
10 x 11	.....	....	.....	.....	.....	.....	.....	.....	.....
10 x 8	4.00	....	.....	.....	.....	.....	.....	.....	6.50
10 x 7	.....	....	.....	.....	.....	.....	.....	.....	6.50
10 x 6	.....	....	.....	.....	.....	.....	.....	.....	6.50
9 x 7	3.50	....	.....	.....	.....	.....	.....	.....	.....

A square of slate is 100 sq. ft. as laid on theroof.

In Brownville and Monson delivery quotations can be had somewhat lower than above, which is also true of other brands. No. 1 Banger are 50c. extra when full 3-16 in. thick, and Peach Bottom 25c. extra per square. Purple sizes run 24x12 and 14x7, and vary from $3.75 to $4 per square. Variegated and mottled, $2.25@2.90 per square, according to size. Intermediate seagreen, $2@2.25 per square. Intermediate red, 14x7 and larger, $6; 12x6, 12x7 and 12x8 in., $5 per square, net.

The opening week of February has brought a few more large orders for roofing slate for home consumption; otherwise the trade reports continued quiet. The deliveries at present are confined to the cheaper slates, particularly seagreen. These slates are now being laid in preparatory to building and repairing farm and outer houses early in the spring. Prices are firmer than a year ago, and as producers anticipate a still further improvement they are not anxious about issuing new price-lists now, although a few concerns have already done so.

Production for the first quarter of this year is not expected to be large, owing to the bad weather, but in the spring efforts will be made to start up several quarries that have lain idle. Stocks at quarries are not large, and if anything are much below the same time last year.

During January the shipments of roofing slate from Slatington, Pa., amounted to 12,433 squares, which is 5,960 squares more than December. On the other hand the movement of school slates and blackboards was much less in January, as compared with the previous month. The shipments from Walnutport, Pa., in January amounted to 573 squares of roofing slate, showing an increase over December of 278 squares. Here also the movement of blackboards in January showed a large falling off.

The Slatington blackboard makers have come to an agreement to maintain prices at 10, 11 and 12c. per sq. ft., according to size.

Slate flour from Pennsylvania is quoted f. o. b. cars New York at $9.25 per ton, and a fair business is reported.

Export business is causing much talk, particularly about the profit to be made from shipping roofing slate abroad. At present freight rates and the percentage for breakage asked on the other side and time of payment all give evidence that the export trade must be looked after very closely in order to realize a profit. Then, again, Welsh quarrymen have reduced their prices in several cases from a year ago about 5 per cent But still we believe the Americans can compete with the Welshmen if a business-like policy is adopted. We have met the foreigner on his own ground in other commodities and have built up a very remunerative export business, and we therefore believe the slate industry should also fall in line.

The latest freight rates from New York to London are 13s. 9d. ($3.30) per ton; Liverpool, 13s. 6d. ($3.24); Manchester, 15s. ($3.60); Bristol, 15s.; Hull, 17s. 6d. ($4.08); Newcastle, 17s. 6d.; Hamburg, 15s. All these have a 5 per cent. primage per ton weight. Further contracts have been taken for London at 13s. 9d., and it is believed that this will be the basis of all contracts throughout the year. This rate compares with 12s. 6d. ($3.00) on contracts during 1898. The new steamer "Manhattan," which cleared January 27th from New York for London, had on board 51 carloads of roofing slate, and it is said 9 more carloads had been shut out. Of recent exports from this port we note the following: To Cardiff, Wales, 69 carloads roofing slate ($16,500); Liverpool, 3 carloads ($575); London, 6 carloads ($1,500); Leith, Scotland, 4 carloads ($1,018); British Africa, 107 cases ($360); Rotterdam, Holland, 20 cases ($155); British West Indies, 14 cases ($43); Argentine Republic, 10 cases ($34); Uruguay, 6 cases ($36); British Guiana, 3 cases ($14); total value, $20,235. Much roofing slate is waiting the arrival of overdue steamers.

CHEMICALS AND MINERALS.

(For current prices of chemicals, minerals and rare elements, see also page 196.)

New York. Feb. 10.

Heavy Chemicals.—A good demand continues, especially for domestic soda ash, and receipts of it at this port amounted to 830 sacks and 222 packages, against 815 sacks and 57 drums last week. Imports were very light. Export business has been better this week, and quite a large amount of soda ash went to South America. Prices are unchanged.

Quotations are: Caustic soda, domestic, high test, $1.40@$1.45 per 100 lbs. f. o. b. works; $1.50@$1.65 delivered. Foreign caustic soda, high test, $1.60@$1.70 delivered, according to test and quality. Powdered caustic soda, 2¾@3c. Alkali, domestic, 55@60c. f. o. b. works; 65@70c. delivered; foreign, 70@75c. Bleaching powder, English prime brands, $1.40@$1.62½ per 100 lbs.; other brands, $1.30@$1.45. Continental F, prime, $1.45@$1.50. Bicarb. soda, domestic ordinary, $1.15@$1.25 per 100 lbs. f. o. b. works. Natrona brand, $1.65; "Arm and Hammer brand" $3.25@$3.50, less the usual discount; foreign, $2.12½@$2.25 per 100 lbs., according to brand and style of package. Sal soda, domestic, 50c. per 100 lbs., f. o. b. works, less the usual discounts; English, 60@62½c. per 100 lbs. Concentrated sal soda, foreign (crystal carbonate), $1.60@$1.70 per 100 lbs.; domestic (mono-hydrate crystals), $1.25@$1.35 per 100 lbs.; "snowflake," $1@$1.12½ f. o. b. Syracuse. Chlorate of potash, crystals, 8⅞@9c.; powdered, 9¼@9½c. per lb.

Acids.—Blue vitriol still attracts most attention, and holders are stiff in asking 6c. A good export business is reported. In the other acids deliveries are fair on contract. Small quantities have been shipped to South America. Quotations are unchanged, with the exception of blue vitriol.

Quotations per 100 lbs. for New York and vicinity are as follows: Acetic acid, commercial, No. 8, $1.30@$1.40; muriatic acid, 18°, $1.10 for drums, and $1.15@$1.75 for carboys; 20°, $1.20@$1.87½; 22°, $1.35@$2.25, according to quantity and brand. Nitric acid, 36°, $3.50@$4.75; 38°, $3.75@$4.62½; 40°, $4@$4.87½; 42°, $4.62½@$5.25. Oxalic acid, $6.25@$6.50. Mixed acids, according to mixture. Sulphuric acid, 66°, $1,10 for drums and $1.15@$1.75 for carboys. Chamber acid, 50°, in a jobbing way, $11.50@$12 per ton f. o. b. factory. Blue vitriol (copper sulphate), $5.75@$6 per 100 lbs. for best grades.

Brimstone.—Home trade is quiet, while prices are firmer. The scarcity of freight room from Sicily has limited spot supplies, which are quoted at $23.50@$24 for best unmixed seconds, and sales are reported on this basis for February-March shipments. Futures are offered at $22 for best unmixed seconds, and $19.50@$20 for best thirds. Concerning the statistical position of the industry, it is reported that the visible supply at the various shipping ports in Sicily on January 1st amounted to 243,837 tons, as against 240,367 tons on January 1st, 1898.

Pyrites.—Demand is improving, and at least one large concern is increasing its output of pyrites. Prices are steady and unchanged. No arrivals are noted at this port.

Spanish pyrites contain from 46% to 51% sulphur, the American from 42% to 44%, and Pilley's Island, N. F., about 50%. Quotations are: American lump ores (basis 52%), $3.25 per long ton f. o. b. mines, Mineral City, Va.; $5 per long ton f. o. b. mines, Charlemont, Mass., and $6.50 per long ton for Pilley's Island, delivered in New York. Fines are $3 per long ton, f. o. b. Mineral City, Va.; $4.25 at Charlemont, Mass., and $4.50 for Pilley's Island, delivered in New York. Spanish pyrites, 11@13c. per unit, according to percentage, delivered ex-ship New York and other Atlantic coast ports.

Nitrate of Soda.—The market is firmer, and it is estimated that the monthly supply of nitrate of soda from now until July 1st will average about 60,000 bags. Spot and nearby arrivals are quoted at $1.62½@$1.65 per 100 lbs., while futures are offered at $1.55. Freight room at the primary market was last bid for at 27s. 6d. ($7.60) per ton.

The decision recently rendered by the Appellate Division of the Supreme Court in the case of T. Q. Browne against Patterson and others, in regard to time as an element in contracts, is attracting much attention in the trade.

Fertilizing Chemicals.—The improvement in the Southern cotton situation has naturally reflected in this market, but as yet the demand for the animal ammoniates is still limited. Sulphate of ammonia is unchanged. The potash salts schedule of contract prices for the coming season has not yet been issued. Exports of fertilizers have been only fair, owing to the continued high ocean freight rates. Quotations as below are practically without change from last week.

Quotations are: Sulphate of ammonia, gas liquor, $2.67½@$2.70 (basis of 25%) per 100 lbs.; bone, $2.60@$2.65. Dried blood, high grade Western, $1.92@$1.95 per unit; New York, $1.70@$1.72½ per unit. Azotine, $1.70@$1.75, basis New York. Concentrated phosphates (30% available phosphoric acid), 57½c. per unit. Acid phosphates, 13@15% av. P_2O_5, 60@65c. per unit at sellers' works in bulk. Dissolved bone black, 17@18%, P_2O_5, $16@$16.50 per ton. Acidulated fish scrap, $11@$11.50; dried, $18.50@$19 f. o. b. fish factory. Ammonia superphosphates, high grades, $25@$26 per ton. Tankage, high grade, $14.50@$15 per ton f. o. b. Chicago; $18.50@$19 at New York. Concentrated tankage, $1.90@$1.95 per unit f. o. b. Chicago; low grade, $13@$13.50 per ton. Bone tankage, $19.50@$20.50; ground bone, $20@$21 delivered. Bone meal, $1.40@$1.50 f. o. b. Chicago.

Phosphates.—Reports from the producing centers show much activity and firm prices. The export movement in January included 4,419 tons of high grade Florida phosphates from Savannah; of this amount 2,920 tons went to Bremen, Germany, and the balance to Rotterdam, Holland. Charters taken recently included a British steamer of 1,466 tons from Fernandina to Stettin, Germany, at 19s. 9d. ($4.74), March sailing, and one of 1,045 tons from Tampa to Ghent, at 18s. 6d. ($4.44).

Quotations are: Florida high grade, 75@80% rock, $8.75@$9 per long ton f. o. b. Fernandina. The freight rate to New York is about $1.90 per ton. Florida land pebble, 68@73%, quoted at $5.50@$6 per ton, delivered in New York, South Carolina ground rock is worth $5.50 to $5.75 per short ton, delivered in New York; sun dried, $3 per 2,240 lbs. f. o. b. Ashley River; hot-air dried, $3.25 f. o. b. same place, and $3.45 f. o. b. Charleston, S. C. Tennessee phosphate, $3.25@$3.75 f. o. b. Mt. Pleasant, according to quality.

Valparaiso, Chile. Dec. 31.

(Special Report of Jackson Brothers.)

Nitrate of Soda.—This article has continued depressed, and, although it is being offered at lower prices, and freights have also given way, no combined business has as yet been possible. Some interest has been shown at 4s. 9½d. ($1.15) per cwt. for September-October, 1899, delivery of the ordinary quality, but producers for the present abstain from offering their forward production. We quote 95% January-February delivery

at 4s. 7½d. ($1.11), March-April 4s. 8d. ($1.12), and 96% January-February at 4s. 9½d. ($1.15), all sellers. The price of 4s. 7½d. ($1.11), with 26s. 3d. ($5.58) all round freights, stands in 6s. 5½d. ($1.55) per cwt. net cost and freight without purchasing commission. Sales reported during the fortnight amounted to 472,800 qtls., ranging in price from 4s. 7½d. to 4s. 9½d. ($1.11@$1.15) per qtl.

IRON MARKET REVIEW.

NEW YORK, Feb. 10, 1899.

Pig Iron Production and Furnaces in Blast.

Fuel used	Week ending Feb. 11, 1898.		Week ending Feb. 10, 1899.		From Jan., '98.	From Jan., '99.
	F'ces.	Tons.	F'ces.	Tons.	Tons	Tons
An' racite	26	17,250	30	23,400	110,473	137,060
Coke.....	144	206,750	150	215,700	1,223,673	1,261,390
Charcoal.	15	5,150	20	6,120	31,898	35,850
Totals..	185	229,150	200	245,220	1,366,044	1,436,300

Trade is extremely active in all departments, and the rush now is to place, not to secure, orders. Furnaces and mills alike are full of work, and nearly all have orders extending well over the first half of the year. This applies to finished material as well as to pig iron and steel billets. In some descriptions it is difficult to place contracts. This is especially the case with plates, for which there has been a very heavy demand, and none of the mills is in a position to take any more work for the present.

In rails there has been considerable business, and it is understood that the principal companies have agreed to keep the price at about $20 a ton at mill.

Advances in price are now general, but are still quite moderate in amount. Further increases are talked of, but the general disposition is to make them gradually. The largest gain since the first of the year has been in steel billets—about $1 a ton; but Bessemer pig, gray forge, and some grades of foundry iron show almost as much.

No contracts of especial importance are noted this week, the large volume of business being made up principally of moderate orders.

The talk of the day is all of consolidations. The cast-iron pipe trust is nearly complete. It will be known as the United States Cast Iron Pipe and Foundry Company, and will include all the Western and Southern foundries; but the Eastern foundries have not joined in. The tube and pipe combination is understood to be making progress. The bridge-builders are still discussing some form of union. The most important combination is referred to at length elsewhere.

Of course there are numerous rumors about these and other consolidations, but most of them are received with caution.

The National Steel Company, which has filed articles of incorporation this week, is the result of the purchase of several plants by the Americanican Tin-plate Company. Originally the intention was only to supply steel for that company, but the plans have been enlarged. The mills bought by the new company are as follows: Ohio Steel Company, Youngstown, O; Shenango Valley Steel Company, New Castle, Pa.; Bellaire Steel Company, Bellaire, O; Aetna-Standard Steel Company, Bridgeport, O.; King, Gilbert & Warner, Columbus, O.; Sharon Iron Company, Sharon, Pa.; Buhl Steel Company, Sharon, Pa.; Union Steel Company, Youngstown, O.; Wheeling Steel and Iron Company, Wheeling, W. Va. The iron ore and coke interests owned by the Olivers, of Pittsburg, are also included. The consolidated plants have a capacity of 1,800,000 tons steel and 1,600,000 tons pig iron yearly. There are 17 blast furnaces in all, and 7 steel plants, Bessemer and open-hearth. Of the latter one plant—the Buhl Company's—uses the basic process; the others all make acid steel. The capital stock will be $25,000,000 common and $25,000,000 preferred stock. The organization is not yet complete, but it is understood that William E. Reis, of New Castle, Pa., will be president, and Henry Wick, of Youngstown, O., vice-president.

Birmingham, Ala. Feb. 6.

(From Our Special Correspondent.)

The pig iron market in this section of the country remains in as favorable a condition as it ever had been in. There is just as much iron being made and shipped as ever before, and the prospects are that the condition will prevail for some time to come. The prices are inclined to go up. There is a scarcity of some grades of pig iron, and some of the companies have been forced to acknowledge this condition to would-be purchasers.

The following are the quotations given: No. 1 foundry, $8@$8.50; No. 2 foundry, $7.75@$8; No. 3 foundry, $7.50@$8; gray forge, $6.75; No. 1 soft, $8@$8.25; No. 2 soft, $8.

The export trade is exceedingly heavy. The Southern Iron Committee still refuses to give out any of the figures of the amounts of iron shipped from the district, and so figures that are secured cannot be exactly accurate. It is stated that during the period from January 7th to the 31st 18,000 tons of pig iron made in this district were shipped through the port at New Orleans.

It is figured that during the month of January the shipments for export purposes amounted to 35,000 or 40,000 tons. The export market does not as yet show any signs of weakening, and it is now looked upon as the most important trade for the industry.

There is still much work being done at the rolling mills. The finished iron market is in a very satisfactory condition, and the product of the rolling mills is finding a ready sale. The other iron industries in this district are being kept busy, with plenty of work on hand and more in sight.

There is much progress being made on the construction of the big steel plant at Ensley, and the steel wire and rod mill. The Sterling Boiler Company, of Pittsburg, received the contract during the past week for the boilers at the wire and rod mill.

There are many stories afloat in this district as to the formation of the pipe trust, taking in the American Pipe and Foundry Company, which concern controls the pipe plants at Bridgeport, Anniston and Bessemer, in this State, and in Chattanooga, Tenn. The report has it that the Addyston Pipe and Foundry Company, of Ohio, has been taken into the combine.

There is talk of a tube factory and cement works being built at Ensley, near the steel plant. The Tennessee Coal, Iron and Railroad Company is credited with being behind these projects. The Legislature, now in session in Montgomery, has granted a charter for tube works in this district.

Buffalo, N. Y. Feb. 8.

(Special Report of Rogers, Brown & Co.)

The strength of the market increased from day to day, and prices locally have been moved up slightly during the past week under an effort to shut off sales, as all furnaces tributary to this market are sold much farther ahead than they find it comfortable to be. Furnaces are restricting sales to their regular customers exclusively under an effort to take care of trade that has been with them in the past. Interest in Lake Superior charcoal continues, and the prospects are that the year's product of these furnaces will be closed out before long. We quote for cash, f. o. b. cars Buffalo: No. 1 strong foundry coke iron, Lake Superior ore, $13; No. 2 strong foundry coke iron, Lake Superior ore, $12.50; Ohio strong softener No. 1, $12.75; Ohio strong softener No. 2, $12.25; Jackson County silvery No. 1, $14; Southern soft No. 1, $14.25; Southern soft No. 2, $13.75; Lake Superior charcoal, $12.50 @$13.50; coke malleable, $12.25.

Cleveland, O. Feb. 8.

(From Our Special Correspondent.)

Iron Ore.—The past week has been a lively one on the ore market. The activity has included some large sales, the result of the agents of the ore companies coming to an agreement. Some of the agents report that they have sold nearly the entire amount which they will mine this year. The general feeling is that some of the ores that were a drug on the market last year will be in demand this year before the season is fairly advanced, as but comparatively little of any kind or grade of ore remains to be sold. The new prices are based on the average analysis of last season. Following are the quotations: Specular and magnetic ores, Bessemer quality, $3.35@$3.55; specular and magnetic ores, non-Bessemer quality, $3.05@$3.25; hematite ores, Bessemer quality, $2.75@$3.25; hematite ores, non-Bessemer quality, $2@$2.25.

Pig Iron.—The condition of the market is strong and satisfactory. The increasing demand for the various varieties has resulted in slight advances in the quotations, and the tendency of the prices is upward. The orders from the buyers invariably contain the stipulation that the metal must be moved forward as rapidly as possible. Following are the quotations, f. o. b. Cleveland: Lake Superior charcoal, $11.75; Bessemer, $11.25@$11.50; No. 1 foundry, $11.25@$11.50; No. 2, $11@$11.25; No. 1 Ohio Scotch, $11.50@$1.75; No. 2, $11.15@$11.40; gray forge, $10.15@$10.40.

Philadelphia. Feb. 10.

(From Our Special Correspondent.)

Pig Iron.—Pig iron has advanced 25c. on certain makes, which can be delivered in 90 days. Higher quotations have been made on other makes, but which cannot be had. The upward tendency is strong, and a further advance is among the immediate probabilities. Buyers are not receiving iron bought one to three months ago, according to promises. Forge iron is particularly strong. At the advance just made quite an amount of business in small orders has been done, but there is no panic, and large consumers will wait until the situation becomes acute.

Billets.—As high as $20 is quoted, and billets have sold within a week as low as $19. There are several large consumers who are anxious to place big orders, but the unsettled condition of the market is given as the reason why orders are delayed.

Merchant Bars.—The bar iron trade is very active. Steel bars have been advanced a tenth. Last week's quotations are withdrawn. Merchant bar has hardened in sympathy, and 1.20c. is bottom to-day. Steel is 1.25@1.35c.; tested, 1.20@1.25c., and as high as 1.30c.

Merchant Steel.—Eastern orders for the past week show that large consumers are once more in the field. The highest quotations yet made meet with no opposition. The only point insisted on is certainty of delivery at times named.

Sheets.—The action of two or three large consumers in placing large contracts at advanced quotations is regarded as a sure sign that the rank and file will follow, and that a continuous demand may be expected at top prices.

Pipes and Tubes.—There is great disturbance in this branch over reported combinations. The average consumer only cares to get his order booked. Large buyers have been negotiating for several days for deliveries during the next three months. The advance made is paid, and another advance is predicted. The market is opening up any large requirements.

Skelp.—Skelp is very strong at 1.15c. for grooved steel. Grooved iron is 1.30@1.40c.

Plates.—Another fractional advance in selling prices has been made, without any public announcement of the fact. Each order rests on its own basis. The same conditions prevail as have been heretofore noted. The mills are simply unable to accept all the business offered, and prices are hardening. What may happen a week hence is mere prophesy. Consumers are prepared for anything, and wild rumors are afloat to-day about big orders and big prices.

Structural Material.—The quotations for beams and channels have been fractionally advanced as a sort of bonus for assured delivery. Agents say a marked advance cannot be delayed longer than a few days. The mills are overcrowded, and only small orders have been considered this week. They have the preference because they afford wider margins.

Steel Rails.—Some orders have been taken at $19, and quite probably some more will soon be sent to mills at the same figure, but on all new inquiries $20 is quoted, except where a large lot is wanted.

Old Rails.—Old iron rails are quoted $13.50@$14, and are scarce.

Scrap.—There is a great deal more scrap needed than the dealers can set their hands or eyes on. Of course, under these conditions the strongest prices prevail.

Pittsburg. Feb. 9.

(From Our Special Correspondent.)

The market for iron and steel continues in a very healthy condition. Firmness continues all the way through, and at certain points an advance was demanded and obtained. Makers are perfectly satisfied with the situation of affairs, as it will give them an opportunity for reducing their contracts and seeing what effect the increased output will have. With such a vastly enlarged sphere of operations as is now met with, it requires the most careful judgment to forecast the future to even an approximate extent, and, as the majority of producers are already committed to two, three, and sometimes nearly six, months' engagements, it is not to be wondered at that they are glad to get a breathing spell.

Pig Iron.—It is a little difficult to get at the true inwardness of the pig iron situation. One set will claim that they are getting more money than they did a week ago, and are just on the verge of making a new advance. Others scout the idea, and say that none but buyers of carload lots will pay an advance, and that large buyers have no difficulty in getting what they want at current prices. Probably both claims are pretty nearly right, or, rather, they both think they will be right in a short time. Some iron can be bought at inside prices, and some iron can be sold at the outside figures, but there is no significance in either operation, as they are small lots at both ends of the line.

Finished Material.—Business in this department continues very satisfactory in all departments. Mills are all well supplied with work, and prices are firm, with an advancing tendency, so that prospects could hardly be better than they are; buying comes from all directions, and is of the most urgent and persistent character, showing that consumption is on a larger scale than ever before.

Muck Bar is firm, with an increased tendency. Sales at $19.75.

Steel Wire Rods.—Holders firm; supply light. Sales at $25.50 delivered.

Wrought Iron and Steel Pipe.—Trade continues active; more so than usual for the season; the

plants have been crowded all season; prices firm; tending upward.

Scrap Material and Old Rails. .—Market firm, active, with sales made at a further advance.

Ferro-manganese.—Firm, with sales of 80% at $52.50.

Wire Nails.—Prices are firm, with a large demand, and a further advance to $1.60 per 100 lbs.

Latest.—The cold weather has checked business to a certain extent; but has failed to check the advance. Pig metal is higher; Bessemer in Pittsburg advanced, with sales at $11.50; the highest point reached for a long time. Valley Bessemer is now held at $11 at the furnace. These prices will no doubt cause consumers to hold off as long as possible. Mill iron in Pittsburg advanced to $11; mill iron, Valley, to $10.35. Everything is on the up grade. Old rails and scrap material are advancing. The American Steel and Wire Company advanced the price of wire and wire nails $2 a ton, making the price of wire $1.45 per 100 lbs. at mills to jobbers, and wire nails $1.60 per 100 lbs.

COKE SMELTED LAKE AND NATIVE ORE.

Tons.	Cash.
5 000 B., M., A., P.....	$11.40
3,000 B., F., M., P.....	11.25
2,500 B., M., J., P.	11.15
2,000 B., M., A., V.....	10.50
1,500 B., F., M., P.....	11.15
1,500 B., F., P.....	11.50
1,000 M. I'n, F., M., P.	10.20
1,000 B., A., M., P.....	11.15
1,000 B., F., M., P.....	11.30
1,000 B., M., P	11.20
1,000 B., prompt P....	11.50
500 B. spot, P.....	11.30
500 B., F , P	11.25
500 M. I'n, M., V....	10.75
500 Mill I'n, A., P.	10.65
500 Mill I'n, M., P...	11.00
400 B., A., P.....	11 25
350 B., M., P.....	11.50
300 No. 2 F'dry, P....	11.00
250 No. 2 F'dry, P....	10.75
200 No. 2 F'dry, P....	10.95
200 No. 1 F'dry, p't, P.	11.50
—60 days	
150 M. I n, prompt, P.	10.50

BLOOMS, BILLETS, SLABS.

2,500 Bits , M., J., P...	$17.85
1,500 Billets, M., A., P.	17.75
1,500 Billets, M., P	17.50
1,000 Billets, M., A. P.	18.00
1 000 Billets M., P ...	17.50
500 Billets, pr'mpt, P.	18.00
250 Open Hearth, P.	20.00

MUCK BAR.

500 Neutral, p'pt, P.	$19 75
500 Neutral, p'pt, P.	19.70

FERRO-MANGANESE.

Tons.	Cash.
50 Imp.,80%, del , P.	$52.50

CHARCOAL.

150 Cold Blast, P....	$21.50
100 Ex. C Blast, P..	25.00
100 Warm Blast, P..	16.00
100 Warm Blast, P .	15.50
50 Warm Blast, P..	15.25
50 Warm Blast P..	15 50
50 Cold Blast P ...	22.00

RAILROAD MATERIAL.

50 000 lbs.—Lanks and pins $1.35 per cwt.; track bolts,hex. nuts, $1.75 per cwt.; track bolts, square, $1.65 per cwt.; spikes. $1.60 per cwt.

OLD IRON AND STEEL RAILS.

1,500 Iron Rails, gr., V.	$14.50
1,200 Steel Rails gr ,P.	10.50
1,000 Ex. S. R'ils, gr..P	11.00
1 000 Iron Rails, gr.,P.	14.25
500 Ex. I R'ils, gr.,P.	15.30

SCRAP MATERIAL.

600 Bu. Scrap net, P.	9.50
500 H'vy Steel gr.,P.	10.50
500 No. 1 W. S.,n't, V.	12 60
500 H. S. Scrap gr. P.	10.50
500 H'y Steel, gr., P.	11.00
400 No. 1 W. S.,gr. V.	12.00
300 Wr. T'ngs, net, P.	7.00
300 Cast Scr'p., gr., P.	9.00
200 Cast B'ngs, net, V	6.00

STEEL WIRE RODS.

500 at M'krs' Mill, P. $25.50

New York. Feb. 10.

The local iron market is firm and strong, though sales are not heavy. In foreign business we note shipments of $30,000 worth of metal working machinery, and prospective shipments of $35,000 worth of pumps to France; inquiries for $200,000 worth of iron pipes from Holland; shipments to England of $29,000 worth of electrical machinery; to Russia of $20,000 worth of machine tools; to Germany, $40,000 worth of machine tools; to Cuba, $8,000 worth of steel rails, while the American Steel and Wire Company has taken an order for 10,000 kegs of wire nails and 1,500 tons of barb and plain wire from South Africa.

Pig Iron.—Business during the week has been good, at firm prices. We quote: Northern brands, tide-water delivery, No. 1 X foundry, $12; No. 2 X foundry, $11.75; No. 2 plain, $11.25; gray forge, $10.50@$10.75; Southern brands, New York delivery; No, 1 foundry, $12@$12.25; No. 2 foundry, $11.75@$12; No. 1 soft, $12@$12.25; No. 2 soft, $11.50@$11.75; No. 3, $11@$11.25; basic, $11@$11.25.

In warrant irons there has been considerable trading. Prices have shown little change. Alabama No. 1 has been steady at $8¾, and No. 2 at $8¼, while No. 3 has been $7⅞@$8; No. 4, either $4.8 or $4⅞, and gray forge, $7⅞@$8.

The American Pig Iron Storage Warrant Company reports stocks on hand December 31st, 150,800 tons; January 31st, 135,200; deliveries in January, 16,000 tons.

Bar Iron.—The market is firm, in response to demand elsewhere, and prices have climbed. An order for 600 tons for a South American port is reported taken. We quote, for large lots on dock: Common, 1.20c.; refined, 1.26c.

Plates.—The local consumption is light, but the market is very strong in response to the demand at other points. A foreign order for 7,000 tons was in the market this week, but high ocean freights have hindered foreign business. Prices have advanced sharply and we now quote: Tank, ¼-in. and heavier, 1.65c.; 3-16-in., 1.70c. Shell is quoted for 1.70c.; flange, 1.75c.; marine, 1.80c.; firebox, 1.85c.; Universals, 1.37½c.; charcoal iron plates, 2.25c. for shell, 2.75c. for flange; iron rivets, 2.25c.; steel rivets, 1.75@1.85c.

Steel Rails.—Inquiries for export are numerous and a contract for 10,000 tons for Nova Scotia is reported taken. Prices are decidedly higher and we quote: Standard sections, $20 f. o. b. mills, with girder rails $24. Lighter rails are quoted: 12-lb., $26; 16-lb., $24; 20-lb., $24; 25-lb., $22; 30-lb., $22; 35-lb., $22; up to standard, $21, with the usual 10% advance for smaller orders; all f. o. b. mills. Track fastenings are quoted: Angle bars, 1.20c.; fish plates, 1.20c.; spikes, 1.50c.; bolts, 1.75c.

Nails.—Prices for wire nails are being forced up by the American Wire and Steel Company, and we now quote car loads on dock $1.80; cut nails are firm at $1.35 for large lots on dock.

METAL MARKET.

New York, Feb. 10, 1899.

Gold and Silver.

Gold and Silver Exports and Imports
At all United States ports, December and year.

	December.		Year.	
	1897.	1898.	1897.	1898.
GOLD.				
Exports	$577,996	$1,219 638	$34,276,401	$16,194,954
Imports	2,582 405	8,639,882	34,020,592	158,036,252
Excess	I. $2,004.409	I. $7,420,244	E. $255,809	I $141,841,298
SILVER.				
Exports	5,848,530	5,827,698	58,661,292	53,797,104
Imports	2,766,786	3,108,421	33,082,302	29.029,724
Excess	E. $3,081,744	E. $2,719,277	E $25,578,990	E. $24,767,380

This statement includes the exports and imports to all United States ports, the figures being Treasury Department.

Gold and Silver Exports and Imports, New York
For the week ending Feb. 9th, 1899, and for years from January 1st, 1899, 1898, 1897, 1896.

Period.	Gold.		Silver.		Total Excess, Exp. or Imp.
	Exports.	Imports.	Exports.	Imports.	
We'k	$4,000	$215.294	$628,125	$51,564	E. $365,267
1899..	363,831	2,822,077	3,736,813	357,881	E. 920,716
1898..	2,733,755	2,798,218	4,999.597	1,329,335	E. 3,605,799
1897..	262,611	279,573	4,630,644	271.715	E. 4,341,967
1896..	9,199,135	11,380,039	4,889,738	182,730	E. 2,526,104

The gold exported and imported was in small parcels. The silver exported went chiefly to London; that imported came from the West Indies and South America.

The United States assay office in New York reports the total receipts of silver at 78,000 oz. for the week.

Financial Notes of the Week.

General business continues very active, though there has been some reaction in the speculative markets, which is chiefly the natural consequence of recent too rapid advances. The ratification of the treaty of peace with Spain by the Senate has been generally accepted as the only possible settlement of a disturbing question. The fight at Manila has caused a little excitement, but after all had little effect on the markets, since most people who had studied the situation at all carefully saw some time ago that a conflict there was inevitable.

Money in New York is again comparatively easy, and the bank statement shows a large expansion in loans. The situation in London is better, and money there is more plentiful than for some time past. There is still some stringency in Berlin, and Paris is unsettled. Upon the whole, no considerable movement of gold this way is to be expected at present.

Silver has been in moderate request during the week. A special order sustained an otherwise dull market and carried the price to 27½d. At this figure the orders seem to be well supplied.

The estimate of the money in the United States on February 1st, made by the Treasury Department, is as follows:

	In Circulation.	In Treasury.	Totals.
Gold coin	$696,987,400	$127,595,746	$824,493,146
Silver dollars.....	63,429,088	408,351,769	471,780,857
Subsid. silver....	69,083,516	6,961,831	75,015,347
Gold certif's.....	33,039,939	1,630,060	34,669,999
Silver certif's.....	392,337,684	7,293,820	399,631,504
Treas. notes, 1890.	93,993,753	1,988,527	95,982,280
U. S. notes.....	309,643,158	37,037,858	346,681,016
Currency certif's.	22,170,000	400,000	22,570,000
Nat. bank notes..	237,576,019	5,748,207	243,324,226
Totals	$1,918,260,557	$596,887,818	$2,515,148,375

The estimated circulation per capita is $25.42. The total circulation showed an increase of $20,959,145 in January; and of $288,269,329, as compared with February 1st, 1897. In addition to the coin reported above, the Treasury holds $142,074,889 in gold bullion and $92,192,207 in silver bullion.

The statement of the United States Treasury on Thursday, February 9th, shows balances in excess of outstanding certificates as below, comparison being made with the statement for the corresponding date of last week:

	Feb. 2.	Feb. 9.	Changes.
Gold	$227,121,777	$227,716,003	I. $594,226
Silver	10,292,434	9,382,080	D. 910,354
Legal tenders	14,472,298	14,463,228	D. 9,070
Treas. notes, &c.....	1,825,062	1,962,125	I. 137,063
Totals	$253,711,571	$253,523,436	D. $188,135

Treasury deposits with national banks amounted to $87,560,685, a decrease of $1,576,041 during the week.

The statement of the New York banks—including the 66 banks represented in the Clearing House—for the week ending February 4th, gives the following totals, comparison being made with the corresponding weeks in 1898 and 1897:

	1897.	1898.	1899.
Loans and discounts..	$497,513,600	$633,859,800	$741,526,600
Deposits	568,961,800	733,827,500	880,022,500
Circulation	16,787,500	14,392,400	14,601,600
Reserve:			
Specie	79,559,500	114,088 2 0	197,207,800
Legal tenders	117,221,000	104,150,300	60,250,500
Total reserve	$196,780,500	$218,238,500	$257,458,300
Legal requirement	142,240,450	183,456,875	220,095,625
Balance surplus	$54,540,050	$34,781,625	$37,452,675

Changes for the week, this year, were increases of $15,154,400 in loans and discounts, $18,385,000 in deposits, and $3,722,900 in specie; decreases, $98,400 in circulation, $906,000 in legal tenders, and $1,779,350 in surplus reserve.

The following table shows the specie holdings of the leading banks of the world at the latest dates covered by their reports. The amounts are reduced to dollars, and comparison is made with the holdings at the corresponding dates last year:

	1898.		1899.	
Banks.	Gold.	Silver.	Gold.	Silver.
N. Y. Assoc.	$114,088,200	.....	$197,207,800	.....
England	165 229,555	.....	167,000.420	.....
France	385,400.074	$241,619,703	364.534 800	$239,775,800
Germany	150,720,000	77,640,000	139,105,000	71,660,000
Aus.-Hun. ..	181.635,000	62,115,000	179,390,000	62,155.000
Spain	47,155,000	52,850,000	55,310,000	43.720,000
Belgium	14,000,000	7,000,000	15,495,000	7,750,000
Netherlands..	13.140.000	34,230,000	21,575,000	34,000,000
Italy	78,560,000	10,690,000	75,145,000	11,720.000
Russia	591,685,000	19,060,000	503,300,000	21,210,000

The returns for the Associated Banks of New York are of date February 4th, the Banks of England and France, February 9th, and the others are of date February 2d, as reported by the "Commercial and Financial Chronicle" cable. The New York banks do not report silver separately, but the specie carried is chiefly gold coin. The Bank of England reports gold only.

Shipments of silver from London to the East for the week ending January 26th, 1899, are reported by Messrs. Pixley & Abel's circular as follows:

	1898.	1899.	Changes.
India	£365,550	£376.500	I. £10,950
China	58,144	116,880	I. 58,736
The Straits	80,100	5,000	D. 75,100
Totals	£503,794	£498,380	D. £5,414

Arrivals for the week, this year, were £261,000 in bar silver from New York, £24,000 from Chile, £5,000 from the West Indies, and £3,000 from Australia; total, £293,000. Shipments were £84,500 in bar silver to Bombay and £5,000 to Calcutta; total, £89,500.

Daily Prices of Metals in New York.

February.	Sterling Exchange	Silver. Fine oz. Cts.	Silver. London P'nce	Copper. Lake, cts. ₱ lb.	Copper. Electrolytic, ₱ lb.	Copper. Lond'n standard £ ₱ ton.	Tin, cts. ₱ lb.	Lead, cts. ₱ lb.	Spelter, cts. ₱ lb.
4	4.85¼	59⅝	27⅜	18	17⅛		24¾	4 67½	6 00
6	4.85¼	59⅝	27⅜	17¾	17	72 5 0	24½	4.62½	6.05
7	4.85⅛	59⅜	27⅜	18¼	17⅛	72 0 0	24½	4.50	6 10
8	4.85¼	59⅝	27⅜	18	17	72 0 0	23½	4.45	6 10
9	4.85¼	59⅝	27⅜	18	17	71 7 6	23	4.37½	6.15
10	4.85⅛	59⅝	27½ @18¼		17¼	73 2 6	23⅜	4 37½	6 12½

Average Prices of Metals per lb., New York.

Month.	Copper.		Tin.		Lead.		Spelter.	
	1899.	1898.	1899.	1898	1899.	1898.	1899	1898.
Jan	14.75	10.99	22.48	13 87	4.18	3 65	5.34	3.96
Feb	.....	11.28	.....	14 08	.....	3 71	.....	4.04
March ..	.....	11.94	.....	14 38	.....	3 72	.....	4 25
April ..	.....	12.14	.....	14.60	.....	3.63	.....	4.26
May	.....	12 09	.....	14.52	.....	3.64	.....	4.27
June....	.....	11.89	.....	15 22	.....	3.82	.....	4 77
July....	.....	11.63	.....	15.60	.....	3.95	.....	4.66
August..	..	11 89	.....	16.23	.....	4.00	...	4.58
Sept. ...	.....	12.31	.....	16.03	.....	3.99	.....	4.67
October..	.....	12.41	.....	17.42	.....	3.78	.....	4 98
Nov. ...	.....	12.86	....	18.20	.....	3.70	.....	5.29
Dec ...	.....	12.93	.....	18.30	.....	3 76	.....	5.10
Year. ...	.....	12 03	.....	15.70	.....	3.78	.....	4 57

The price given in the table is for Lake Copper. The average price of electrolytic copper in January was 14.26c.

Average Prices of Silver per oz. Troy.

Month.	1899.		1898.		1897.	
	Lond'n Pence.	N. Y. Cents.	Lond'n Pence.	N. Y. Cents.	Lond'n Pence.	N. Y. Cents.
January...	27.42	59.36	25.29	56.77	29.74	64.79
February..	.....	...	25.89	56.07	29.68	64.67
March.	.....	.. ..	25.47	54.90	28.96	63 06
April ...	.. ...	.....	25 95	56.02	28.36	61.85
May...	.....	.....	26 31	56.98	27.86	60.42
June	.....	...	27.49	58.61	27.58	60.10
July.....	.....	.....	27.92	59.06	27.36	59.61
August....	.....	....	27.48	59.54	24.93	54.19
September	.....	....	28.65	60.68	25 66	55.24
October ..	.....	....	27.90	60.42	26 77	57.57
November	.....	... .	27.93	60.60	26.87	57.93
December.	....	.....	27.45	59.42	26.83	58.01
Year.....	.....	... ...	26.76	58 26	27.55	59.79

The New York prices are per fine ounce; the London quotation is per standard ounce, 925 fine.

Indian exchange continues strong, although there is no great pressure for money in India. All the Council bills offered in London were taken at an average rate of 16.09d. per rupee.

Prices of Foreign Coins.

	Bid.	Asked.
Mexican dollars.....	$ .47	$ .48½
Peruvian soles and Chilean pesos.....	.42½	.43
Victoria sovereigns	4.85	4.87
Twenty francs	3.84	3.88
Twenty marks	4.73	4.78
Spanish 25 pesetas	4.78	4.84

Other Metals.

It has been our custom to give the average price of metals—copper, tin, lead and spelter—in our table on the last Saturday in each month. This has, without exception for many months, been the true average for the entire month. For January the average was given on the 28th, but the extraordinary and rapid rise in the last three days of the month made a new calculation necessary for copper and tin. The corrected averages are given in the table this week.

Copper.—The market continues to be very strong. Manufacturers report a good business doing at the higher prices and they are buying freely. Producers generally are well sold ahead, and for early deliveries they appear to be sold out entirely. Prices this week have changed but slightly and Lake copper is held for 17¾@18¼c.; electrolytic copper in cakes, wirebars and ingots for 17@17½c.; cathodes for 16¾@17c., with casting copper held nominally for 17c.

We hear, on good authority, that the production of the Anaconda Mines, which fell off somewhat in December, in January reached a total of only 5,500,000 lbs. of copper, or not much over half the usual monthly output. Manager Daly is reported to be taking steps to increase the production of ore from the mines.

The London market at the beginning of the week opened at £72 5s., subsequently went up to £73, but under persistent selling gave way to £71 7s. 6d. At the lower prices general buying developed, and the market quickly advanced to £73 5s., which is the closing figure. For refined and manufactured we quote: English tough, £77 @£78; best selected, £77 10s.@£78 10s.; strong sheets, £87; India sheets, £83; yellow metal, 6¾d.

Tin.—The market has fluctuated considerably, both here and abroad. The closing price in New York is 23½c.

In London it opened at £111 5s., and on Tuesday declined to £110 5s.; on Wednesday to £108 7s. 6d.; on Thursday to £105, and on Friday reacted to £106 10s. Reports from the East are to the effect that supplies are scant and no material increase is looked for.

Lead.—The market this week experienced a rather sharp decline, for while at the beginning of the week nothing could be bought below 4.70c., New York lead is now freely offered at 4⅜c. New York. In the West, prices have not suffered to the same extent, and lead at St. Louis is held for 4¼c.

The London market has also declined and Spanish lead is now offered at £14 7s. 6d., and English lead at £14 10s.

During December the imports of lead amounted to 8,084 long tons, and exports 4,378 tons, while on December 31st there were 6,555 tons in bonded warehouses.

St. Louis Lead Market.—The John Wahl Commission Company telegraphs us as follows: Since our last report our market has largely declined, owing to demoralizing reports from Europe and the seaboard, so that accurate quotations can scarcely be given. We quote the market nominally at 4.15@4.17½c., according to brand and delivery.

Spelter.—Consumption of this metal appears to be very heavy, and this week a large business has again been done at advancing prices. Here the closing prices are 5.85c. East St. Louis, and 6.10c. New York.

Abroad also the market has still further improved and London now quotes £27 2s. 6d.

The exports of domestic production in December from the United States were 861 long tons spelter and 266 tons zinc ore.

Antimony.—The demand continues very good and prices have improved somewhat. We quote Cookson's, 10c.; Hallett's, "C" and U. S. Star 9½@9¾c.

Nickel continues on unchanged lines, and no alteration in prices can be reported. We quote for ton lots 33@36c. per lb., and for smaller orders 35½@38c. London prices are 14@16d. per lb., according to size and order.

Platinum.—Demand is active and prices continue high. For large lots $15.50 per ounce is now quoted in New York; for smaller orders, $16@$17. The London quotation is 62@64s. an ounce.

Quicksilver.—The New York quotation remains $42 per flask. The London prices is £8 5s., with £8 4s. named from second hands.

The Minor Metals.—Quotations are given below for New York delivery:

Aluminum.	Per lb.		Per lb.
No. 1, 98% ingots..	30@40c.	Bismuth	$1.40
No. 2, 90% ingots..	31@34c.	Phosphorus	48@50c.
Rolled sheets.....	38c. up	Tungsten	70c.
Nickel alloy.....	33@39c.	Ferro-tungsten, 60%	60c.

Variations in price depend chiefly on the size of the order.

Imports and Exports of Metals

Port.	Week, Feb. 8.		Year, 1899.	
	Expts	Impts.	Expts.	Impts.
***New York.**				
Aluminum.....long tons	12	.. ...	32	10
Antimony ore... " "	... ..	....	.....	170
" regulus.. " "	.....	.....	.....	30
Chrome ore .. " "	...	‡110	.....	110
Copper, fine .. " "	1,151	632	6,599	1,496
" wire..... " "	36	.....	189	.....
" matte... " "	2	....	162	315
" ash .... " "	.....	17	...	12
" sulphate " "	363	.....	971	.....
" other ... " "	.....	15	.....	5
Ferro-chrome.. " "	.....	... ...	.....	...
Ferro-mangan'se " "	.....	.....	...	.....
Ferro-silicon..... " "	.....	....	...	.....
Iron ore ... " "	.. ..	.....	....	5
" pig, bar, rod " "	50	... ..	644	319
" pipe ..... " "	716	.....	3,324	.....
" plates ..... " "	.....	.....	15	.....
" other.. ..... " "	33	.....	235	...
Lead . ... " "	1,768	1,384	5,168	5,044
" ore . . " "	.....	.....	...	
Manganese ore.. " "	.....	.....	.....	129
§Metals, old . " "	5	‡64	133	289
Composition.. " "	.....	.... .	325	.....
Nickel .. " "	52	.....	267	.....
§Railr'd material " "	314	‡80	1,296	220
Rails, old..... " "	532	...	2,233	.....
Spiegeleisen..... " "	.....	‡48	.....	48
Steel billets, etc.. " "	580	‡249	3,818	1,544
" rails. ..... " "	2,999	.....	11,362	.....
" hoops. . ... " "	170	.....	270	.....
" wire..... " "	1,347	.....	3,561	.....
" nails..... " "	529	.....	1,447	.....
" not spec'd. " "	501	‡34	1,541	229
Tin... . .. " "	....	215	. ...	3,510
" dross or ashes " "	48	...	48	...
" and black plates boxes	...	‡11,616	.....	28,422
Zinc.....long tons	...	.....	.....	9
" dross ..... " "	25	.....	57	..
" dust or ashes " "	.	.....	94	....
" ore..... " "	801	....	801	.....
" oxide ..... " "	106	‡10	446	48
" skimmings. " "	107	.. ..	160	.....
†Baltimore.				
Aluminum. .....long tons	.....	.....	.. ...	....
Antimony regulus.. casks	.....	.....	...	....
Brass scrap.....long tons	.....	.....	...	.....
Chrome ore ..... " "	.....	.....	...	.....
Copper, fine ..... " "	331	.....	3,388	.....
" matte . " "	.....	....	...	.....
" sulphate " "	45	.....	322	.....
Ferro-manganese " "	.....	.....	...	549
Ferro silicon..... " "	.....	.....	...	50
Iron pig, bar, etc. " "	193	.....	470	905
" ore..... " "	...	.....	...	18 435
" pipe..... " "	92	....	1,730	.....
" pyrites..... " "	.... ..	.....	.....	6,584
" other . ..... " "	.....	.....	.....	5
Lead ..... " "	...	.....	...	....
Machinery..... " "	..	.....	115	.....
Manganese ore.. " "	.....	.....	...	3,203
Metals, scrap ... " "	207	....	207	.....
piegeleisen.. " "	.....	.....	...	34
teel, bars,pl'es,&c, " "	796	.... ..	7,448	48
" wire ..... " "	.....	.....	51	100
" rails ..... " "	.....	.....	2,000	....
" nails ..... " "	...	.....	84	... ...
" pipe..... " "	.....	.....	310	....
not specified.. " "	9	.....	9	.....
Tin .... " "	.....	...	.....	44
" dross ..... " "	.....	.....	.....	.....
" and black plates, boxes	.....	.....	.....	.....
Zinc.....long tons	.....	.....	18	.....
" dross ..... " "	.....	.....	17	.....
***Philadelphia.**				
Antimony . .....casks	.....	.... ..	.....	.....
Chrome ore.....long tons	...	.....	.....	...
Copper ore..... " "	.....	...	.....	7,174
Ferro-manganese " "	.....	.....	... .	70
Iron, pig..... .. " "	.... ..	.. ...	.....	.....
" ore..... " "	.....	.....	.....	7,250
" pyrites ..... " "	.....	.....	...	.....
Manganese ore.. " "	.....	.....	...	9,600
Spiegeleisen..... " "	....	.....	.....	300
Steel . . .. " "	...	.....	.....	.....
Tin ..... . " "	.....	.....	.....	125
" and black plates, boxes	...	.....	.....	.....
Zinc ore.... .. ...long tons	.....	.....	1,050	.....

*New York Metal Exchange returns. †By our Special Correspondent. §Not mentioned elsewhere. ‡Imports for week, February 2nd.

MINING STOCKS.

Complete quotations will be found on pages 193, 194 and 195 of mining stocks listed and dealt in at:

Baltimore.	New York	Mexico.
Boston.	Philadelphia	Paris.
Butte.	Pittsburg.	Rossland.
Cleveland.	St. Louis.	Shanghai.
Colo. Springs.	Salt Lake	Toronto.
Denver.	San Francisco.	Valparaiso
Spokane.	London.	

New York. Feb. 10.

A continued better feeling prevails in the local mining share market, and prices have improved with the demand. The Colorado stocks are the feature of the week's trading, although a few of the higher priced Crippie Creek stocks have receded somewhat. Isabella dropped from $1.80 on January 31st to $1.38 on February 6th, owing to liquidation by holders who were anxious for immediate profits. To-day bids of $1.50 have been made, but little stock is offering. Portland sold at $1.90 yesterday, notwithstanding the report that Mr. James Doyle, a large owner of the stock, has applied to the court for a receiver. Nevertheless, the directors of the company have declared the regular $60,000 monthly dividend, payable February 15th. Moon-Anchor sold at $1.25½, and holders are now asking $1.30. Matoa, which is reported to have made a rich strike on the Half-Moon property, went up to 45c. per share asked, while the last sale was made at 43½c. Anaconda Gold opened at 55c., and is now offered at 62c., while a sale was made yesterday at 60c. The annual report of this company will be found in our Colorado mining news column. The cheaper Cripple Creek stocks are gaining. Two Leadville companies—Breece and Small Hopes—will pay dividends this month. Small Hopes has just declared a 10c. dividend, payable February 16th; the stock sold at $1.40 a few days ago, and at the close an advance is asked. Breece will distribute a 5c. dividend on February 15th, the shares are quoted at $1.20@$1.25. The High Five Gold Mining Company, capitalized at $1,000,000, par value of shares $1, has recently been listed on the Industrial Exchange. The officers are H. L. Prentice, of the Prentice Investment Company, president; E. P. Smith, vice-president, J. A. Thompson, secretary and treasurer, and P. A. Phillips, manager. The company claims to own the Only Chance mine in the Leadville district, besides five properties in Cripple Creek, known as the Gold Quartz, Phonolite, Rhyolite and Jeff Davis Nos. 1 and 2. The stock has sold on the exchange at 8@ 9c. per share. The Prentice Investment Company is the transfer agency in New York.

The Comstock shares are a little firmer to-day. Consolidated California & Virginia has been quoted up to $2.20.

In the California group Standard Consolidated was bid up to $2.30, by insiders, while buyers offer anywhere from $2 to $2.25. The insiders are hopeful of the operations of the new mill which was recently completed, to replace the mill that was burned last October. The new mill has 20 stamps, and will be operated by electricity. It is understood that the company has about $90,000 in the treasury, and when the reduction in capitalization has been made at the meeting on February 27th a dividend is expected. Brunswick Consolidated sold at 30c. which is the highest price for more than a year.

Moulton, of Montana, after nearly five years, has declared a dividend of 5c., payable February 15th, and the stock has sold up to 25c. this week

Auction sales were: 900 shares of the old stock of the Santa Fe Copper Company at $2 per share; 5 shares Compromise Mining Company at $15.05 per share.

The Industrial Exchange has increased its membership to 82, though less than half of these do business on the board.

Boston. Feb. 9.

(From Our Special Correspondent.)

The story of the copper stocks is growing monotonous, since we record nothing but advances, with an occasional slight reaction as profits are taken. This week has again shown material advances and very active dealing. The old shares have gone up beyond calculation—Calumet & Hecla touching $800 Tuesday. They are really so high that they are beyond the means of a large part of the speculators. This fact has helped to make a demand for the new shares and the public would rather buy them on the chance of having something than to fall back on the old stocks that broke down years ago. It does not seem to matter much what they are; as long as they are new people buy without question.

The Wahnita Copper Mining Company is the latest exploitation; it has $2,500,000 capital in $25 shares, and the stock is to be issued on payment of $5. The issue is underwritten by Frederick Clark and others.

The organization of the Mass Consolidated Mining Company is being completed. Charles H Bennett has been chosen treasurer of the company.

A petition is to be presented to the Michigan Legislature, asking for an amendment to the present law, which limits the capitalization of mining companies to 100,000 shares of $25 par value. The speculators want an opportunity to make bigger allotments of stock and take in more money than they can do under the present law. Even if the amendment is secured, it may not be passed until the present boom is over. The chances are said to be against its passage.

There are a number of the new copper companies which are not yet listed and which are selling only on the curb. The quotations of these will give some idea of the way stocks are selling. The list of these companies is continually increasing. I give below nine of them, with prices quoted Wednesday:

	Shares.	Subs. Price.	Quotations.
Michigan:			
Copper Range	100,000	$20	$45
Mass Con.	100,000	8	17½
Miners'	100,000	20	42½
Michigan	100,000	10	20
Trimountain	100,000	12	15
Victoria	100,000	7	10½
Wyandotte	100,000	8	10
New Mexico:			
Santa Fe	250,000	15	18
Utah:			
Bingham	200,000	5	12⅛

The list does not include the companies, like the Rhode Island, which are on the list, and have their shares regularly quoted. The total value of these stocks at current market rates is just now $23,050,000. This is practically an entirely new asset, as most of these stocks had no existence six months ago. There are just enough good values in this list to keep up the average; for the rest the value is wholly problematic. To say the least, it remains to be proved, and in some cases it never will be.

On Wednesday people began to think of taking profits and a pretty extensive selling movement set in. The consequence was a general fall in prices, though not a heavy one. In the afternoon a reaction carried up most shares several points; but nearly all closed at lower figures than on the previous day.

3 p. m.—To-day the market was active and generally strong, the specialty being Utah. This stock to-day reached 41 on large transactions, while Bingham sold up 2½ to 14.

Gold stocks are the great attraction just now. Old copper favorites are neglected, Butte and Arcadian having but one quotation each, $85½ and $70 respectively; Calumet, $785; Osceola, $97; Quincy, $170; Montana, $345; Old Dominion, $36¾; Tamarack, $232½; Franklin, $26½; Centennial, $44⅝; Old Colony, $19⅛; Wolverine, $48; Santa Fe, $16½; Isle Royale, $52; Gold Dredging, $30; Union, $10⅝; Cochiti, $10½; Michigan, $17½ bid; Victoria, $10; Atlantic, $43; Tecumseh, $8½; Albany, $10¼; Mohawk, $30½; Adventure, $14; Parrot, $39¼; Mass, $16 bid; Miners, $40 bid; Winona, $15¾; Rhode Island, $11½; Baltic, $33½; Pioneer, $7½; Ysabel, $15¾.

For new companies' unlisted stocks the following prices were made on the curb: Copper Range, $44½; Miners' Copper Company, $41; Michigan, $17½&$18½; Santa Fe, $16½@$17½; Mass, $16@$16½; Trimountain, $14½@$15; Bingham, $14; White Knob, $11; Victoria, $9½@$10; Wyandot, $9½@$10; Boston Consolidated, $10½.

Colorado Springs, Colo. Feb. 6.

(From Our Special Correspondent.)

The mining stock market has been excited over very heavy trading within the past two weeks, owing principally to the Isabella strike. The dealings on the Mining Exchange have grown so rapidly that the board had to close one day recently to finish its clearings. Prices have gone up, as will be seen from the official returns of the Exchange. Among these I notice Isabella, which has been sold up to $1.80 per share, showing an advance of $1.54 over the highest price paid in 1898, and $1.25 more than that for 1897.

The market has also been largely influenced by the increasing gold production of the Cripple Creek District.

Salt Lake City. Feb. 4.

(From Our Special Correspondent.)

An abundance of money and strong bouyant copper and lead markets are factors which aid in the continued remarkable volume of trading in Utah mining shares. Though there have been no startling advances since last Saturday, prices, on the whole, retain a high level, with fluctuations enough to keep the speculators guessing. The call sales for the week were 428,723 shares, which sold for $133,917. The business on the new Utah Exchange—which holds forth in the afternoon—for the first 5 days of its career, amounted to 83,000 shares, for which $19,817 was paid. It would seem as though one exchange ought to handle all the business in these shares better than two.

Mammoth is strong, above $2. Lower mammoth has moved about lively, closing strong, $1.05 bid. Ajax remains stationary and strong. Bullion Beck is considerably higher and firmer. Centennial Eureka is unchanged. Grand Central is firm and hard at the lower level it has taken. Star Consolidated presents a good front at $1.40 bid. Four Aces has done a stirring business between 64c. and 68c., closing hard, 65¾c. bid. Buckeye's softening is due to a threatened lawsuit. A slump in Joe Bowers to 18c. is on account of the pending litigation, involving a half ownership in the property. Joe Bowers Extension is likewise under a cloud, relative to title. Swansea is a shade higher. Sunbeam, in its upward climb, has paused at 30c. bid, 33c. asked. Homestake has receded a few points, but it is whispered that it is to be further advanced. It is simply in strong hands, who will it to be higher. South Swansea, as usual, is firm at the ruling figures of the past three months or more.

Mercur has put on greater strength. As dividends are not to be paid for some months, it would seem that the inside has fixed a stop low mark about $6.50. Sacramento is lower, though it is the first to pay a February dividend. In spite of more good reports, Daisy is an offering at 55c. Northern Light has receded to 90c. Sunshine is quiet around 65c. Chloride Point is strong, $1.16½ bid, $1.20 asked. Omaha has dropped below 45c. Little Pittsburg is sloppy under 15c., and another assessment may soon be looked for.

Since paying the January $20,000 dividend, Horn Silver has hardened, and is higher. Valeo is again above $1.50. Daly West is in good favor, closing $11 bid, $12 asked. The special stockholders' meeting January 31st voted unanimously to purchase the incorporated half of the property, paying therefor 75,000 shares of stock, as previously explained. The annual meeting will be held February 20th, when the new directorate will be named. Silver King is unusually strong.

San Francisco. Feb. 4.

(From Our Special Correspondent.)

Stocks have at last taken a little turn, and this week was much the most active we have seen this year, with generally firm and higher prices. There was no special reason for it, and the trading was all of the old sort, with very few outside orders to help it along. It is partly due to the fact that many of the old-time traders have picked up a little money in wheat and other speculations, and have come back to the mining market with it; partly it is a little comedy played to attract the outsiders with the hope of profits. The public may be induced to buy on an upward movement—if it is not too busy to pay any attention whatever.

Some quotations noted are: Consolidated California & Virginia, $2.05@$2.10; Sierra Nevada, $1.05; Ophir, 83@86c.; Best & Belcher, 65c.; Mexican, 59c.; Gould @ Curry, 35c.; Challar, 34c.; Hale & Norcross, 10@12c. The business on Friday was the largest for a long time, amounting to about 40,000 shares.

The sales on regular call at the San Francisco Stock Exchange for the month of January compare as follows:

	Shares.
1896	206,415
1897	274,280
1898	157,360
1899	121,955

This statement of sales shows how light the business on the Exchange has been this year.

Paris. Jan. 29.

(From Our Special Correspondent.)

Matters politically are more quiet. All present fear of trouble with England has passed, and our home difficulties, though not settled, are less pressing. The official discount rate of the Bank of France is still 3%, but it is believed that the bank will soon follow the Bank of Englands lead and drop at least ½%. Meantime money is much easier generally, and this favors the stock market.

The metallurgical shares have shown renewed strength, and some advances have been made, with more probable. Nearly all the companies are full of work, and there is no cause to complain of the way orders are coming in. Warships and material, railroads and other enterprises are all calling for iron and steel as fast as our works can supply them—sometimes a little faster. The situation is good, and ought to result in very good dividends for the current year.

The zinc mine shares are all strong and in demand. The price of the metal is rising, and I am informed that the European supply is below the demand, so that considerable imports will be necessary. Fortunately, you are in a position to supply us, as you have already begun. Moreover, the high prices of copper will tend to drive manufacturers to the use of spelter wherever possible, and so to support and enhance its quotations.

The Spanish lead shares are showing a fair advance; about the only thing Spanish which is prospering. Practically Spain is on a paper basis entirely, with no prospect of restoring its finances. To a nation doing an active trade the situation would be a very bad one; but Spain is not a trading nation, and the effect of a fluctuating currency is less apparent than it would be with any other nation in Europe.

We do not hear any more of the proposed federation of copper producers. I am informed, however, that certain parties here and in London have organized a strong speculation for a rise in copper. The price is already going up sharply. The demand is really large, which is, of course, an important feature. By means well understood, the visible stocks are being manipulated to show a large decrease, and the impression is being diligently cultivated that a scarcity of copper is impending. There is a large amount of capital available for the use of these speculators, and I do not doubt that they will succeed in forcing a heavy rise in the price of the metal. This will carry with it also a heavy speculation for the rise in Rio Tintos and some other stock. The Berlin group is rather short of money just now, but will do its best to help—and will certainly reap some share of the profits.

The movement of gold and silver in France for the full year is reported by the Ministry of Commerce as below:

	Imports. Francs.	Exports. Francs.	Excess. Francs.
Gold:			
1898	198,715,221	312,858,950	Exp. 114,143,729
1897	293,456,750	131,858,875	Imp. 161,598,875
Silver:			
1898	195,418,221	189,935,299	Exp. 5,482,922
1897	178,424,150	192,755,700	Exp. 14,331,550

The imports of copper and nickel coins, at their face coinage value, amounted to 89,100 fr., against 99,900 fr. in 1897. The exports were 613,800 fr., against 2,988,000 fr. in 1897.

A new society, the League of Taxpayers, is in process of formation, its object being to combat the administrative extravagance which has been for years increasing our burdens, without corresponding benefits. It will have hard work, for the tendency with us—as it is, I believe, in all parliamentary governments—is to vote money away in larger amounts each year for objects which appear desirable; to increase the number of offices, and generally to appropriate money freely. It is always easier to increase an appropriation than to reduce one. The liberal legislator, who votes to spend, is more popular than he who votes to save money—at least until the taxes begin to pinch, as they are doing now in France. The large number who hope to get some benefit from the public treasury do not stop to consider where the money comes from.

In public, as in private life, it is the spendthrift, not the saver, who is called "a good fellow."

Azote.

LATE NEWS.

CALIFORNIA.

Siskiyou County.

(From Our Special Correspondent.)

Hungry Hill.—At this mine on Knownothing Creek, 8 miles south of Forks of Salmon, 25 men are employed on the development work, and in stoping. The tunnels show several thousand feet of openings, and a lot of ore is said to be in sight. A. Dannenbrink, one of the owners, is superintendent. There is a good milling plant on the property.

Knownothing.—A force of 10 men is at work day and night at this mine, on Knownothing Creek, 8 miles southeast of Forks of Salmon. The property is opened up by several tunnels, and some very rich ore is being stoped out on the lower levels. The general average is said to be $40.

Klein.—This hydraulic and drift mine, on North Fork River, below Sawyers Bar, is worked by the Salmon River Hydraulic Mining Company. About 15 men are employed. Two giants are in operation day and night.

COLORADO.

El Paso County—Cripple Creek.

(From Our Special Correspondent.)

Florence & Cripple Creek Railroad. A force of men is grading this road from the Victor Mine to Midway, between Bull and Ironclad Hills. This road recently put a switch in to the Isabella.

Mary McKinney Mining Company.—The company has taken charge on the Johnson lease. It has been running over two years, and is reported to have paid, although considerable water has been encountered. The company will work through this shaft, which is three compartment. New hoisting machinery is already in place.

Ouray County.

(From Our Special Correspondent.)

Atlas.—This is now a promising mine. It is near the Revenue, and recently opened up a continuation of the Wheel of Fortune vein, a prominent shipper of the early days.

Cleopatra Smelter.—The assignees, Haskins & Hurlburt, are running this plant, near Ouray, in the endeavor to pay out the claims of the creditors, and have declared a dividend of 10%.

Neodosha.—This property has just come to life as a continuation of the Wedge vein, four miles north of Ouray, and a large force of men is driving on the vein. Some very high grade ore is being mined.

Pueblo.—This property, near Ironton, is producing about 15 tons daily of low grade lead milling ore. Shipments are made to the Beaumont Sampler.

STOCK QUOTATIONS.

NEW YORK.

NAME OF COMPANY.	Location.	Par val.	Feb. 4. H.	Feb. 4. L.	Feb. 6. H.	Feb. 6. L.	Feb. 7. H.	Feb. 7. L.	Feb. 8. H.	Feb. 8. L.	Feb. 9. H.	Feb. 9. L.	Feb. 10. H.	Feb. 10. L.	Sales.
Adams Con	Colo.	$10	..	..	.13	..	..	..	..	..	.14	..	..	..	1,800
Alamo	"	1	.06	..	..	..	..	..	.15	..	.16	..	..	..	..
Alice	Mont.	25	.80	.75	.8	.75	.80	..	.81	..	.81	..	..	..	..
Alta	Nev	2	.06	..	.16	..	.16	..	.06	..	.07	..	..	..	..
Anaconda Gold	Colo.	5	.5	..	.54	..	.56	..	.64	..	.60	..	..	..	300
Andes	Nev.	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Argentum-Jun.	Colo	2	.30	..	..	..	..	..	.31	..	.32	..	..	..	..
Belcher	Nev.	3	.16	.15	.27	..	.16	.15	.15	..	.15	..	..	..	2.0
Best & Belcher	"	3	.64	.55	.76	..	.60	..	.45	..	.50	.45	..	..	4.0
Breece	Colo.	25	1.20	..	1.2	2.15	1.20	1.15	1.25	..	1.25	1.20	..	..	100
Brunswick	Cal.	1	.15	..	.15	..	.25	.15	.30	..	.35	..	..	..	700
Caledonia	S. D.	100	.55	..	.60	..	.50	..	5	..	.50	..	..	..	..
Catalpha	Colo.	10	.15	..	.15	..	..	..	..	..	.15	..	..	..	..
Cholla	Nev.	5	.40	..	.33	..	.30	..	..	..	..	..	..	..	500
Chrysolite	Colo.	50	.15	.12	.15	..	.13	.12	.15	..	.13	.12	..	..	..
Comst'k T.,b'ds	Nev.	100	.05	..	.06	..	.05	..	.05	..	.06	..	..	..	4.0
do. stocks	"	100	.07	.05	.06	..	.05	..	.05	..	.06	..	..	..	3,100
do. scrip	"	100	.05	..	.06	..	.05	..	.05	..	.06	..	..	..	..
Con. Cal. & Va.	"	2	2.05	..	2.20	2.15	1.90	1.75	1.85	..	1.85	..	..	..	1,200
Con Imp	"	1	..	..	..	..	.02	..	..	..	..	..	..	..	5.0
Cr & Cr. Creek	Colo.	1	..	..	.07	..	..	..	.11	..	.07	..	..	..	3 000
Crescent	"	10	.1	..	.11	..	.08	..	..	..	.08	..	..	..	1.00
Cripple Cr. Con.	"	1	.18	.09	.09	..	.12	..	.11	..	.11	..	..	..	4,000
Crown Point	Nev.	3	.22	.20	.21	.20	.20	..	.15	..	.15	..	..	..	..
Deadw'd Terra	S. Dak	25	.50	..	.50	.45	.50	.45	.50	.45	.50	.45	..	..	..
Enterprise	Colo.	1	.30	..	.30	..	.30	..	.30	..	.30	..	..	..	..
Eureka Con.	Nev	10	.35	..	.35	..	.35	..	..	..	.40	..	..	..	..
Father de Smet	S. Dak	100	.14	..	.14	.10	.14	..	.14	..	.14	.10	..	..	..
Golden Fleece	Colo	1	.65	..	.40	..	.4	..	.35	..	.4	..	..	..	100
Gold & Globe	"	1	.04	..	.04	..	..	..	..	..	.04	..	..	..	..
Gould & Curry	Nev.	3	.35	..	.35	..	.32	.30	..	..	.30	..	..	..	..
Hale&Norcross	"	3	.10	..	.35	..	.27	.15	.27	..	.2	..	..	..	2.0
Homestake	S. Dak	100	..	..	.97	..	5.00	..	61 0	..	50.00	..	60.50	..	150
Horn Silver	Utah.	25	1.25	..	1.3	1.25	1.30	1.25	1.35	1.30	1.35	1.30	..	..	100
Iron Silver	Colo.	20	.75	..	.75	.75	.79	.75	.77	..	.75	.75	..	..	..
Isabella	"	1	1.40	..	1.38	..	1.50	..	1.50	..	1.50	..	..	..	..
Julia Con	Nev.	1	.03	..	.13	..	.03	..	..	..	.03	..	..	..	..
King & Pemb.	Ont.	10	.17	.16	.17	.16	..	..	.17	.16	.17	.16	..	..	..
Lacrosse	Colo.	10	.14	.10	.14	.09	.14	.10	.14	.12	.14	.14	..	..	..
Leadville Con.	"	10	.10	.09	.13	.09	.13	.09	.14	..	.14	..	..	..	70.0
Little Chief	"	5	.21	.16	.21	.16	.21	.16	.2	.17	.2	.17	..	..	..
Mexican	Nev.	3	.64	..	.55	..	.42	..	.55	..	.40	..	..	..	1,500
Mollie Gibson	Colo	5	.38	..	.39	..	.28	..	.30	..	.28	..	..	..	1 000
Mt. Rosa	"	1	.24	..	.24	..	.30	..	.27	..	.28	.27	..	..	1,700
Moulton	Mont.	25	..	..	.20	..	.20	..	.2	..	..	..	..	..	..
Occidental	Nev.	3	..	..	.27	..	.30	..	.20	..	.25	..	..	..	..
Ontario	Utah.	100	5.50	..	5.50	..	5.50	..	5.50	..	5.50	..	..	..	..
Ophir	Nev.	8	.8	.7	.78	.50	.8	..	.75	..	.80	..	..	..	..
Pharmacist	Colo	1	.06	..	.10	..	.08	..	.07	..	.07	..	..	..	4.500
Phenix	Ariz.	1	.07	.06	.07	..	.07	.06	.06	..	.06	..	..	..	7,800
Plymouth Con.	Cal.	10	.09	..	.10	.09	.10	.09	.1	..	.10	..	..	..	..
Portland	Colo.	1	1.75	..	1.75	..	1.70	..	1.80	..	1.7	..	..	..	200
Potosi	Nev.	3	.25	.20	.29	..	.23	.20	..	..	..	..	..	..	500
Quicksilver	Cal.	10	..	..	..	..	3.00	..	..	..	..	..	..	..	200
do. pref	"	10	..	..	5.00	..	..	..	..	..	..	..	..	..	..
Savage	Nev.	2½	.20	..	.20	.18	.25	..	.20	..	.25	.20	..	..	500
Sierra Nevada	Nev.	3	1.0	..	.90	..	.85	..	.5	..	.9	..	..	..	2.0
Small Hopes	Colo.	25	1.25	..	1.3	..	1.40	..	1.20	..	1.40	..	..	..	100
Specimen	"	1	..	..	..	..	.07	..	..	..	.08	..	..	..	..
Standard Con.	Cal	100	2.15	2.10	2.30	2.25	2.20	2.15	2.25	..	2.25	..	..	..	550
Syndicate	"	100	..	..	..	..	.06	..	..	..	.08	..	..	..	1,400
Talon	Colo.	10	.23	..	.23	..	.24	..	.22	..	.23	..	..	..	..
Union Con.	Nev.	2½	.35	..	.35	..	.33	.35	.35	..	.35	..	..	..	..
Utah Con.	"	5	.15	..	.28	..	.20	..	.20	..	.19	..	..	..	2,600
Work	Colo.	1	.22	..	.22	..	.23	..	.25	..	.25	..	..	..	1,500
Yellow Jacket	Nev.	3	.20	.14	.18	..	.16	.15	.16	..	.16	..	..	..	300

COAL AND INDUSTRIAL STOCKS.

American Coal	Md.	$25	..	..	130	..	130	..	130	..	140	..	..	..	..
Am.S.&W Co n	"	100	49¾	49	49	47	49½	47⅝	48	45	48⅜	47¾	47⅜	..	75,315
" pf'r n	"	100	96⅝	96⅜	95¾	90	95⅝	94⅝	95	93⅛	95⅝	94⅜	95	..	15,507
Central of N. J.	N. J.	100	101	100	100⅜	100	100	99⅝	100	98⅝	100⅜	100⅛	102⅛	..	12,246
Col. C.& I. Dev.	Colo.	100	1¾	..	..	..	..	..	..	..	1⅝	..	..	..	..
Col. Fuel & I.	"	100	34⅜	34	34	33¾	34	33⅛	32⅝	30¼	33⅜	31⅝	32⅝	..	5,910
Col. & H.C.&I.	Ohio.	100	..	..	7	..	7	6	..	..	7	6	..	..	..
Con. Coal	Md.	100	..	48	..	48	..	52	..	50	..	50	..	..	..
*Del. & Hud	N. Y	100	1 3	112⅜	112	111⅜	112¾	111	111	1 0	112	111	113⅜	..	4,785
Ed'n E.Lof N.Y	"	100	196	95¾	195½	195	196	95⅜	196	195	196¾	..	196	..	990
*Federal Steel		100	52½	5 ⅛	51⅜	49	5.	48	48⅝	46⅜	49	47¾	48⅝	..	12,148
" " pf		100	87¾	87	87	85¾	87⅜	85½	85⅝	84	86¾	85⅜	86	..	10,919
Maryland C.pf.	Md.	100	58	56	58	56	..	..	58	52	58	52	..	..	..
National Lead.	N. Y.	100	38	37⅜	38	35¾	37⅜	36¾	36⅜	35⅜	37	36⅛	36½	..	3,985
New Central C.	Md.	100	43	40	43	40	44	38	43	38	43	38	..	..	..
N. Y., Ont. & W.	N. Y.	100	23⅜	2 ⅜	2 ⅜	2⅛	22⅝	2 ⅜	2 ⅜	2⅛	2 ⅜	2 ⅛	22⅜	..	34,205
Penna'lv'nia C.	Pa.	100	..	945	..	945	..	940	..	34	..	34	..	..	..
Phila. & Read	"	100	22½	21⅝	21⅝	21¼	21¾	20⅝	21¼	20¼	22⅛	21¼	22	..	9,615
" " 1st pf.	"	100	61⅝	59⅝	6	58¼	59⅝	57⅜	59¾	56⅝	60¾	59¼	6.⅝	..	10,370
Standard Oil	"	100	452	451	4 1	449	4 6	454	4 0	4 8	462	45⅝	..	..	..
Tenn.C..L.&R.R.	Ala.	100	44⅜	43	4 ⅜	41¾	45½	40¾	42	38¼	42¾	4 ¾	42	..	52,5

PHILADELPHIA, PA.

NAME OF COMPANY.	L'cation.	Par Val.	Feb. 3. H.	Feb. 3. L.	Feb. 4. H.	Feb. 4. L.	Feb. 6. H.	Feb. 6. L.	Feb. 7. H.	Feb. 7. L.	Feb. 8. H.	Feb. 8. L.	Feb. 9. H.	Feb. 9. L.	Sales
Cambria Iron	Pa.	$50	45 88	45 50	45.75	..	45 13	45.00	45 5	45 25	45 5	45 00	45 38	45 25	504
Cambria Steel	"	50	16 63	16.1	16	15 50	16.63	16 15	16.50	6 2	6 13	15 75	16 63	6.50	20,9 0
Co octaw. pref.	I. T.	50	45 50	45.63	46 5	46 25	46 50	46.38	46 .5	5 4	75	45 00	45 75	..	2 735
Choc. Tr. ctf	"	80	82.75	82.00	83 50	83.00	83 38	83 00	83 5	83 38	83 50	3 .38	83 75	83 63	6,990
Lehigh Val	Pa.	50	25 88	25 75	..	..	25 63	25. 0	25.50	25 0	25 38	24.50	25.50	25 25	4,807
Penna. R. R.	"	50	66 88	66 75	67.25	66.63	66 63	66.25	66.5	65.63	65 63	65.25	65 88	65 50	7,852
Penna. Steel	"	100	26 00	..	..	..	29.5	28.13	..	..	26.50	..	27 00	26 50	..
" pr'f	"	100	..	..	..	..	0.0	0 0	..	..	..	..	..	..	50
United Gas I	"	50	143¾	143	144¼	143⅜	143¾	141⅜	144	142	142⅝	4.⅞	142⅜	142	7,952
Welsb. of Can.	Can	5	2.63	2.50	2.75	..	2 0	..	2.50	..	..	..	2 50	..	960
Welsb. C mi	"	100	..	..	..	..	..	..	1.5	..	..	..	..	..	10
" pf	"	50	..	..	..	..	..	..	60.0	..	60.0	..	..	..	14
Welsb Light	"	100	38.00	..	..	..	38.0	..	38.00	..	..	..	39 00	..	748
We t Coal	Pa.	100	1.00	..	..	..	..	..	..	..	..	..	..	..	..

PITTSBURG, PA. Feb 8.

NAME OF COMPANY.	Location.	Par val	Bid.	Ask.	NAME OF COMPANY.	Location.	Par val	Bid.	Ask.
Allegheny	Pa.	$100	..	..	N.Y. & C. Gas	Pa.	$50	..	..
Car orundum	"	100	..	..	Peoples' Natural Gas	"	50	..	..
Chartiers Valley	"	100	..	..	Peoples' Pipeage	"	25	..	..
Enterprise Mining	Colo.	5	..	..	Pennsylvania Gas	"	50	13	..
Lustre Mining	Mex.	10	..	..	Philadelphia Gas	"	5	..	45
Mansfield Coal	Pa.	50	..	..	Silverton Mining	Colo.	10	..	..
Manufact Gas	"	50	..	..	Wheeling Gas	W.V.	50	..	..

BALTIMORE, MD.‡ Feb. 9.

NAME OF COMPANY.	Location.	Par value	Bid.	Ask	NAME OF COMPANY.	Location.	Par value.	Bid.	Ask
Atlantic Coal	Md.	$10	..	..	Howard C.&C	Md.	$5	..	..
Big Vein Coal	"	10	..	..	Newburg Orrel C.	"	25	..	..
Consolidation Coal	"	100	54	60	Silver Valley	N. C.	5	..	..
George's Creek Coal	"	100	110	115					

ST. LOUIS, MO. Feb. 8.

NAME OF COMPANY.	Location.	Par value.	Latest Bid.	Latest Ask.	Sales.	NAME OF COMPANY.	Location.	Par value	Latest bid.	Latest A k	Sales.
Am. Gold	Colo.	$10	..	..	..	Granite B.	Mont.	$10	$1.10	$1 27½	900
Am Nettie	Colo.	10	$1.07½	$1.15	..	Hope St. L.	Mont.	10	..	..	..
Central L.	Mo.	100	..	..	..	St. Joe. L	Mo.	10	18.50	14 00	..
Doe Run L.	Mo.	100	..	..	..	Sm. Hopes	Colo	20	1 35	1 40	..

BOSTON, MASS.†

NAME OF COMPANY.	Par val.	No. of shares.	Feb 3. H.	Feb 3. L.	Feb. 4. H.	Feb. 4. L.	Feb. 6. H.	Feb. 6. L.	Feb. 7. H.	Feb. 7. L.	Feb. 8. H.	Feb. 8. L.	Feb. 9. H.	Feb. 9. L.	Sales.
Adven'u'e.Cons	$25	100,000	12.00	11 00	15 25	12 00	15.00	14 50	14.50	13 00	14.00	13 00	14 00	13.00	8,137
Allouez, c	25	80,000	12. 0	11.00	1 50	11 00	15 0	11 00	11.00	1 25	0.50	9 5	11 0	0 00	12,055
Arcadian, c	25	100,000	73 0	71 00	70 0	..	75 00	70 0	75.25	72 00	7 .0	63 0	71 50	70 00	.985
Arnold, c	25	40,000	4.00	3 50	13 63	13 50	4 10	13 0	14.00	13 00	13 50	13.00	3.50	13 00	3,6 5
Ashbed, c	25	40,000	..	1 75	..	..	2.50	2 00	2 13	1 88	2 0	..	2 00	..	5,930
Atlantic, c	25	40,000	43 00	41 50	42 00	41.00	44 50	41 25	44 00	43 00	43 00	4 0	43.00	42 25	3,934
Baltic, c	25	100,000	36 00	35.10	36 00	35 75	36 00	34 00	36 00	35 50	35.2	35 00	35 00	33 50	9,434
Bonanza, g	10	300,000	1 55	1.50	1 50	1.25	..	..	1 50	..	1 44	..	1.65	1 50	5,575
Boston & C C. g		200,000	25	..	24	..	..	..	.25	..	..	..	..	..	1,4 0
Bost.&Mont.gsc	25	150,000	355	348	352	350	350	347	352½	346	35	347	348⅝	343	4 394
Breece,s g	2	200,000	..	..	..	..	..	..	1.13	..	..	..	1 93	1.88	1 400
Butte & Bost., c	10	200,000	92 00	89 00	90 00	89.00	89 75	88 5	89.00	..	86 50	84 00	86 50	85 00	8,355
Cal. & Hecla, c	25	100,000	775	750	780	775	795	780	800	799	795	758	785	..	496
Catalpa, g	10	300,000	31	.30	..	..	35	..	..	..	..	..	.30	..	250
Centennial, c	25	80,000	45 00	40 00	46.0	42 50	45.00	44 0	44 50	44 00	45 25	43 50	45 50	44 00	63 015
Cochiti, g	10	150,000	1 00	0 75	1 50	10.75	12 0	..	12 00	1 00	11 25	0 50	1 00	10.2	.190
Dominion Coal	100	150,000	35.00	34 50	35 00	34 25	35 00	34 5	35 00	34.0	34.00	33.50	34 .5	33.00	5,471
do. pref	100	30,000	..	..	.1	..	115⅝	115	..	..	1.13	..	..	115	30
Federal Steel	100	....	52 00	9 50	52 13	5..00	50 75	49.13	51 63	48.00	48.25	46 50	49 00	47 25	18,826
do pref	1 0	....	87.38	87 75	87.88	87.25	87.00	85.50	87 0	85.50	85 2	84 00	86 63	85.50	8,489
Franklin, c	25	40,000	30.0	28.25	29 3	28 00	9.50	8 0	28.75	27 5	27 50	25.38	27.00	26.25	10,779
Gold Coin	5	20 ,000	60	..	60	..	.60	55	..	..	..	..	.55	..	1,875
Humboldt, c	25	40,000	3.00	..	3 00	..	3 25	3.00	3.00	2 88	3 13	3.00	3 00	..	1,093
I. Royal Con. c	25	100,000	59.50	58.25	57 50	57 0	56 50	53 50	55 00	53.50	53 00	50.50	53.50	52 00	10,745
Lake Sup , i	25	84, 00	..	..	..	..	..	..	..	..	..	..	..	..	..
Merced g	15	100,000	9 00	..	..	..	..	..	9 00	8.25	8 00	..	8 50	..	210
Mohawk, c	25	100,000	28 00	27 50	28 25	27 75	29 00	28.00	31 00	28.25	31 75	29 00	32 00	30.00	5,997
Napa, g	7	100,000	8 50	..	..	..	8.50	..	8 50	..	..	..	..	..	3.0
New Idria, g	5	100,000	..	..	..	..	..	..	..	..	..	..	..	..	..
N.A.Gold Dre'g	10	100, 00	31.00	28.25	31 50	..	30 50	..	30.00	28 50	31 00	28 50	30 00	..	1,835
Old Colony, c	25	100,000	18 50	7 00	9.50	8.75	19 75	9.13	19 7.	18 75	19.00	18 0	19 25	18.25	22,893
Old Dominion,c	25	150,000	39 00	37 50	38 00	37 50	38 0	37 00	38 38	37 25	37 0	36 00	37 00	36 00	10,755
Osceola, c	25	10,000	103	99 75	100	100	101	98.50	101	96.50	97 0.	95 0	99 00	96 75	1,597
Parrot, s & c	10	230,000	39 50	39.00	39 50	39 00	..	..	39 50	39 00	39 .25	38 50	39 25	39 00	1,75
Pioneer, g	10	100,000	8 63	7 88	8 38	8 00	8 0	7 50	8 00	7 50	7 50	7.13	7 75	7 13	9,675
Quincy, c	25	100,000	183	180	183	..	184	180	180	179	180	179	180	179	912
Rhode Isla'd Mg	25	100,000	10 0	9 .5	11 0	9.88	12 75	11. 0	3 25	12.00	12 00	1 13	12 00	1. 50	24,112
San. Ysabel, g	5	100,000	16 50	4 50	17 00	4 00	17.00	16 25	17 .0	16 0	16 0.	15.00	16 00	15 75	18,855
Tamarack, c	25	60,000	.47½	240	..	..	245	240	249	240	23	235	235	232	794
Tecumseh, c	25	40,000	7 2.	..	7.50	7 25	9 75	7 50	10 13	9.50	10 00	9 00	9.50	8.50	9,485
Union Cop Lnd. & Mg Co	25	....	10 00	9 00	10.13	10.00	12.00	10.00	11.50	10.50	10 75	10 13	10.75	10 50	1,357
Utah Cons.g &c	5	300,00	31 0	29 75	30 0	29.50	30 00	29.00	30 .0	29 00	30 00	29 00	30.00	29 00	26,110
Victor, g	5	200,00	..	..	..	..	..	..	4 50	4 00	4 63	4.5	..	..	515
Washington Mg	25	40,00	3.25	2 00	2 13	2 00	2 63	2 13	3 13	2 50	3 00	2.37	3 00	2 75	9,495
Winona, c	25	100,00	7 0	16 00	17.00	16.00	17 .5	16 00	17 00	16 25	6 75	15 75	16 00	15 75	7,584
Wolverine, c	25	60,000	49 25	48 25	49.00	48.00	49 00	48 00	50.0	48.5	49 00	48 50	49 .0	48 00	5,993

† Official quotations Boston Stock Exchange. Total shares sold, 376 870.

CLEVELAND, O. Feb. 8.

NAME OF Co.	Iron Range	Par Val.	Feb. 8. Bid.	Feb. 8. Ask.	NAME OF Co.	Iron Range.	Par Val.	Feb 8. Bid.	Feb 8. Ask.
Aurora	Gogebic	$25	..	$4	Jackson	Marquette	$25	..	..
Champion	"	25	..	25	Lake Superior	"	25	$28	$30
Chandler	Vermillion	25	$51	52	Minnesota	Verm. & Mes	100	91	92
Cleve'd-Cliffs	Marquette	100	53	55	Pitts & L'keAng	Marquette	25	105	125
Fed. Steel Co.	"	100	29¾	30	Republic	"	25	13¼	15

BUTTE, MONT.* Jan. 15.

NAME.	Location.	Par Val	Quotations. Bid.	Quotations. Ask.	Sales.	NAME.	Location.	Par Val	Quotations. Bid.	Quotations. Ask.	Sales.
Alice g	Mont.	$25	$0 0	$0.7.	....	Lone Pine C., g	Wash	$1	..	$ 27	....
Am. Dev. & M	"	5	..	.25	....	Mont. Ore P	Mont.	25	..	150.00	....
Anaconda g	"	2	25.00	30 1.0	....	Mo n. Glory, g	Wash	1 .0	....	.8	....
Bone (Basin)	Wash	..	.50	1.0	....	Mountain L	"	0.10	....	.8	....
Black Tail, g	"	..	....	.19	....	New South Cr's	Mont	$5.05	.2	....	....
Con. Gran.-Elm.	Mont.	..	1.4	..	3 0	Number Six, g.	Wash	0.10	1	....	....
Con. Tiger-Poor.	Idaho	1	.30	.40	....	Rebate, g	"	1	.8	22	5,000
Gold Mn. (Ruby)	Mont.	..	20	.50	....	Republic G	"	1	2 75	3 00	10,000
Iron Mn., g	"	..	10	15	....	San Poil, g	"	1	..	..	....
Jim Blaine, g	Wash	..	42	.48	3,00	Tom T umb, g	"	1	26	8	1,00

* Specially reported by the Hewett-Stanley Company. Total sales 19,300 shares

COLORADO SPRINGS, COLO.‡

NAME OF COMPANY.	Par val	Jan. 30. B.	Jan. 30. A.	Jan. 3. B.	Jan. 3. A.	Feb. 1. B.	Feb. 1. A.	Feb. 2 B.	Feb. 2 A.	Feb 3 B.	Feb 3 A.	Feb 4. B.	Feb 4. A.	Sales.
Alamo	$1	..	..	..	..	..	..	..	..	..	..	..	..	..
Anaconda	1	52½	53	56	.56¾	....	....	.58½	59	61	.62	....	....	43,400
Arg'ntum-J	1	....	36⅜	.35	37	....	....	....	....	34	37⅜	....	....	1,650
BattleMtn.	2	35⅜	36⅜	36⅜	37⅜	....	....	.35⅞	.36	35⅞	.36	....	....	228,800
Cr. & C. C	1	08¼	.9	.08¾	.09	....	....	.08	09⅜	....	....	....	....	14,000
C. C. Con	1	11⅜	11⅝	11	1 ⅜	....	....	11⅜	11⅝	10⅜	....	....	....	55,200
Croesus	1	....	....	0 3	004	....	....	0043	.006	0.0	007	....	....	31,000
Currency	1	05¾	.05¾	05⅜	.05¾	....	....	.05⅜	.05¾	05¾	....	....	....	31,000
Des Moines	1	03	.03¾	0.3⅜	03¾	....	....	03⅜	03¾	03⅜	03¾	....	....	78,500
ElktonCon	1	.92	.93	98	9.4	....	....	.9	1 .1	1 12	1 13	....	....	107,900
El Paso G.	1	.17¾	.17⅜	.19	19⅜	....	....	.19⅜	19¾	19¾	19⅜	....	....	129 988
Fanny R.	1	39	39⅜	....	....	....	....	.36	.38	36	....	....	....	5,300
Favorite	1	06	06¼	.06	.06¼	....	....	06¾	.06⅜	06	06¼	....	....	141,500
Findley	1	23¼	25	24½	.25	....	....	24⅜	....	25¾	25⅜	....	....	47,0 0
Gold & Gl	1	06	.06¼	06¾	....	....	....	06¾	.06⅜	07	09¼	....	....	5,200
Golden Fl	1	32	.34	32	....	....	....	....	....	.50	62	....	....	1,1 0
Ing. Con	1	.11	.11¾	11	.11⅝	....	....	....	....	11	10¼	....	....	53,2 0
Isabella	1	1 57	1 58	1.29¼	1.30	....	....	1.50	1 51	1 49	1 49¼	....	....	4 2,725
Jack Pot	1	4.½	.45	45¾	.44	....	....	.45	45¼	43¼	.44	....	....	214,650
Lexington	1	05¾	....	06	.06¼	....	....	.06	.07¼	06⅝	....	....	....	10,000
Ma'net R.	1	02¾	....	03⅜	.03¾	....	....	.04	04¾	05	05¼	....	....	191,5 0
Marion	1	....	.005	....	.005	....	....	003	00	006¼	.007	....	....	13,500
Matoa	1	.32	.33	.34	.35	....	....	.35⅜	40	45¾	46	....	....	84,100
Mobile	1	03¾	.04	....	....	....	....	04¾	04¾	04¾	04¾	....	....	7 ,0 0

STOCK QUOTATIONS.

DENVER, COLO.‡

NAME OF COMPANY.	Par val.	Jan. 30, B.	Jan. 30, A.	Jan. 31 B	Jan. 31 A	Feb. 1. B.	Feb. 1. A.	Feb 2 B	Feb 2 A.	Feb. 3 B.	Feb. 3 A.	Feb. 4 B.	Feb. 4 A.	Sales.
Mines.														
Anac'da G.	$5	.54	.54⅜	.54		.59⅜	.58⅛	.56	.58⅛	.62	.65	.60	.63	35,600
Arcadia C.	1	.....	.....	.....	.06	05	.05⅝	.06	.04⅞	.05¼	05	.06⅜	.....	27,500
Arg J.	1	33	40	.....	.....	.....	.38	.....	.....	.....	.....	.....	.....	.....
Bankers	1	1.⅜	.....	.97½	.....	.10⅜	11¾	11⅜	11¾	.12	.11⅜	.12⅜	.....	7,500
C. C. Con.	1	.....	.....	11⅝	13	.....	12⅜	11	11⅝	.12½	11⅜	.11⅜	.....	4,000
Elkton Con.	1	.86	.....	93	94	.93	.....	102	104	105	.115	.....	.....	1,200
El Paso G.	1	.....	.....	.19½	.....	.18	.....	.18½	.....	19	.20¾	.20	.....	.....
Findley	1	22	23¾	.....	.....	23⅜	25	26	27	26	.....	25	.26⅜	5,500
Garf. Con.	1	14½	15	15¼	.....	14⅜	.15¼	14⅜	.16	14	15⅜	14¾	15¼	6,000
Gilpin C&C.	1	.....	.....	.39	.41	.....	.....	.....	.....	.....	.....	.39	.45	.....
Gold Eagle	1	.35	.....	35	.....	34	.....	33	52	.....	.....	.....	.....	600
Gold Fleece	1	.30	.32	29½	.33½	.30	.....	.....	.....	.50	.45	.60	.....	1,000
Independ'nc	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,000
Iron Clad.	1	.03¾	.04½	.03⅜	.03¾	.03½	.03¾	.03¾	.04	.04¾	.03¾	.04	.....	32,000
Isabella.	1	1 75	.....	1 49	1.51	1.50	1 52	1 55	1 56	1.51	.....	1 5.	1 52½	23,400
Jack Pot.	1	.47	.49	41	.43	.42	50	.44	.48¾	.....	.46	.....	.52	.....
Jefferson.	1	.....	.....	14	.....	.....	.....	.....	.....	.....	.....	.06¾	.....	.....
LosAngeles	1	.09¾	.....	.09¾	.....	.10¾	11	.10½	.10¾	.12½	.....	1 1¾	.12¾	18,500
Matos.	1	.....	.....	.....	.....	.54	.....	.56¾	62	.59	.....	.61	.....	1,000
Mollie Gib.	5	.28	.32	.30	.....	.27	.31	.27	.31	.....	.....	.26¾	.....	100
NewZealnd	1	.31	.40	.30	.31	.....	.....	29½	.31	.28¾	.....	.29¾	.30	2,000
Ophir	1	.40	.42	.39	.....	.38	.43	.38	.45	.30	.....	.....	.....	1,500
Peoples	1	.....	.....	.....	.....	.....	.....	.01¾	.....	.02	.03	.....	.....	11,000
Pharmacist	1	.05¾	.06	.05¾	.06¼	.06¾	...	.07¾	.08	.06¾	.....	.07¼	.....	7,000
Portland	1	1 81	1 90	1 83	1 84	1 85	.....	.86	.....	1 85	.....	1 86	.88	2 0
Pr. Albert.	1	.05¾	.05¾	.04¾	.04¾	.5	.05¾	.05¼	.05	.04¾	.04¾	.04¾	.04¾	54,500
Sacram'nto	1	.05¾	.06¾	.06	.....	.06¾	.07¾	.07	.07¾	.....	.07¾	.05	.07¾	1,000
Specimen.	1	.....	.....	.....	.....	.....	.....	.10	.....	.10	.....	.10¾	.....	.....
SquawMtn	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.02¾	.....	2,000
Union Gold	1	.25¾	.26	.26	.26¾	.27	.....	.26	.26¾	.25¾	.....	.2 5¾	.26	8,500
Va. M	1	.04¾	.05	.04¾	.04¾	.04	.04¾	.04¾	.04¾	.05	.04¾	.04¾	.04¾	4,000
Work	1	.23¾	.25	.24	.25	.23¾	.....	.23¾	.24¾	.23¾	.24½	.23¾	.23¾	10,500
Prosp'cts:														
Ben Hur	1	.06¾	.....	.06¾	.....	.....	.07¾	.06¾	.....	.....	.07	.....	.....	.....
Gilpin Four	1	.004½	.005¾	.004½	.....	.001¾	.005	.005¾	.....	.....	.....	.....	.....	5,000
Greg ry Lag	1	.....	.....	.006¾	.007¾	.....	.....	.0 6	.007¾	.....	.....	.....	.....	4,000
New Haven	1	.....	.....	.....	.05¾	.02¾	.....	.02¾	.....	.03¾	.....	.03¾	.03½	.....
Old Gold.	1	.....	.....	.014¾	.016	0 5	.014	.014¾	.015	.01¾	.02	.01¾	.01¾	168,000
Pib Pin.	1	.003¾	.005	.....	.004	.0 4	.005	.004	.005	.004	0.5	.006¾	.007	35,000
Pine Creek.	1	.....	.0 6¾	.....	.....	.0 5¾	.06	.....	.....	.....	.....	.005¾	.006	.....
Puritan.	1	.003¾	.006	.....	0.5	.003¾	...	0 4	.0 4¾	.0 4¾	.005	.005¾	.007	30,000
Reno.	1	.03¾	.03¾	.03¾	.04	.03¾	.....	.03¾	.03¾	.....	0.4¾	.03¾	.....	11,000
Tamarack.	1	.008¾	.01	.009	.011	.....	.....	.018	15	.009	.01	.0 9	.01	52,000

‡Official Quotations Denver Stock Exchange. Sales. Mines, 275,2.0 shares; Prospects, .85,000 shares; grand total, 560,200 shares.

SAN FRANCISCO, CAL.†

NAME OF COMPANY.	Location.	Par. value.	Feb. 3.	Feb. 4.	Feb. 6.	Feb 7	Feb. 8	Feb 9.
Alpha Con.	Nev.	1.00	.....	.....	.....	.....	05	05
Alta.	"	2 00	.....	.08	.05	.05	.05	.06
Andes	"	3 00	.17	.17	15	13	15	16
Belcher	"	3 00	.20	.23	21	18	19	20
Best & Belcher	"	3 00	.68	.64	.56	50	53	60
Bullion	"	1 00	.04	05	.04	.04	.04	.04
Caledonia	"	3 00	.24	.35	31	.31	.30	33
Challenge Con.	"	3 00	.19	.25	19	16	.16	21
Choliar.	"	3 00	.37	40	35	.33	32	35
Confidence	"	3 00	75	80	.75	63	.....	65
Con. California & Virginia.	"	2 50	2 05	1.90	1.90	1 85	1 90	2.10
Cons. Imperial.	"	1 00	.....	.....	.....	.....	.....	.....
Cons. New York.	"	1.00	.....	.....	.....	.....	.....	.....
Crown Point	"	3 00	.26	.20	.18	.18	.16	.19
Exchequer	"	1.00	.....	.....	.20	.....	.....	.....
Gould & Curry.	"	3 00	.39	.35	.35	.33	.34	.36
Hale & Norcross	"	3 00	.18	.32	.31	.29	.27	.30
Julia Con.	"	1 00	.....	.....	.03	.....	.....	.03
Justice	"	2 00	.12	.12	.12	.11	.11	.12
Kentuck Con.	"	1 00	.11	.11	.....	.10	.....	.09
Mexican.	"	3 00	.58	.54	.54	.48	.73	.59
Occidental Con.	"	3 00	.28	.30	.35	.27	.35	.34
Ophir	"	3 00	.87	.83	.86	.80	.85	.97
Overman	"	2.00	.06	.07	.09	.07	.07	.08
Potosi.	"	3 00	.25	.25	.25	.20	.20	.24
Savage	"	2 50	.29	.25	.27	.22	.23	.27
Scorpion	"	1.00	.....	.....	.03	.03	.03	.03
Sierra Nevada.	"	3 00	1.00	.98	.93	.82	.84	.93
Silver Hill	"	1 00	.....	.....	.....	.....	.....	.....
Standard.	Cal.	100	2.20	2 20	2.30	2.25	2.25	2 30
Union Con.	Nev.	2 50	48	47	46	40	.42	46
Utah Con	"	1 00	19	20	16	18	.16	.16
Yellow Jacket.	"	3.00	.20	.30	.18	.17	17	.18

Official telegraphic quotations, San Francisco Stock Exchange

ROSSLAND, BRITISH COLUMBIA.* Feb. 2.

NAME OF COMPANY.	No. of shares.	Par value	Selling price.	NAME OF COMPANY.	No. of shares.	Par value	Selling price.
Brandon & Gold. Cr.	1,500,000	$1	$0 3)	Lerwick.	500,000	$1	.....
Brit. Amer. Corp'at'n	7,500,000	5	4.00	Lily May.	1,000,000	1	$0.15
Brit Col. Corporation	1,500,000	2½	.....	Lon.&Van.Fin.Dev.Co	500,000	5	.....
Canadian Gold Fields	10,000,000	5 10	10	London B. C Gold F.	250,000	5	8.00
Cariboo.	1,500,000	1	1.50	Monte Cristo	1,000,000	1	.20
Commander.	5.0,000	1	.....	New Gold Fields, B.C.	250,000	1	5 00
Deer Park.	1,000,000	1	.....	Noveity	1,000,000	1	05
Dundee.	1,000,000	1	35	Queen Bess Prop.	120,000	5	.....
Evening Star.	1,000,000	1	.....	Rambler Cariboo.	1,000,000	1	.10
Fern	200,0.0	¼	75	Reco.	1,200,000	1	1 75
Gold Fields of B.C.	3,000,000	3½	4 50	Red Mt.View	1,000,000	1	.....
Hall Mines	250,0 0	5	4 00	St. Elmo.	1,000,000	1	.....
Hattie Brown.	1,000,000	1	.....	St. Paul.	1,000,000	1	.....
Homestake.	1,000,000	1	.06	Sarah Lee	1,000,000	1	.25
Iron Colt.	1,0.0.000	1	.....	Silver Queen	1,500,000	1	15
Iron Horse.	1,000,000	1	.....	Slocan Star.	500,000	1	.....
Iron Mask.	500,000	1	.95	Vic Tr. MinesDev. Co.	25,000	5	.06
Josie	700,000	1	.....	Virginia	500,000	1	.....
Jumbo.	500,000	1	.....	War Eagle Con.	2,000,000	1	3 50
Kenneth.	1,000,000	1	.25	Waverly Mines.	100 000	5	.....
Keystone.	1,500,000	1	.25	White Bear.	2,000,000	1	.10
KootenayGold Fields	20,000		.....	Wild Horse.	400 000	1	.....

* From Our Special Correspondent.

VALPARAISO, CHILE.* Dec 31.

NAME OF COMPANY.	Location.	Capital paid.	Sh.Val paid up.	Last Div'nd, Amt.	Last Div'nd, Date.	Prices. Bid.	Prices. Asked.	Prices. Last sa e
Arturo Prat, silver	Chile.	$3,300,000	$100	4 p. c.	1897	17	15	17
Caracoles, silver	"	315,000	100	10 "	1894	.....	.....	.....
Huantajaya (mine) silver	"	1,000,000	100	13 "	1894	.....	.....	.....
Huanchaca, silver.	Bolivia,	8,000,000	25	4 "	1895	26	28	30
Oruro, silver.	Chile.	800,000	200	.....	.....	340	350	300
Todos Santos, silver.	"	2,000,000	100	1 "	1895	7	10	7
Agua Santa nitrate.	"	3,000,000	50	5 "	1898	164	168	164
Antofagasta, nitrate.	"	2,000,000	200	2 "	1898	160	161	162
Soc. Internacional, nitrate	"	950,000	60	.....	.....	.....	.....	.....
Union, nitrate.	"	3,0.0,000	200	.....	.....	48	50	50

* Special report of Jackson Bros. Values are in Chilean pesos or dollars

SALT LAKE CITY, UTAH.* Feb. 4

STOCKS.†	No. of shares	Par val.	Bid.	Asked.	STOCKS.†	No of shares.	Par val.	Bid.	Asked
Ajax.	300,000	$10	$1.15	$1.25	Homestake.	400,000	$1	$0.10	$0.11
Alice.	400,000	25	.72½	.80	Horn Silver.	400,000	25	1 40	.....
Anchor.	150,000	10	.40	1.50	Little Pittsburg	400,000	5	10¾	.14
Buckeye.	500,000	1	.05	.05¾	Lower Mammoth	150,000	1	1 05	1 07½
Bullion-Beck & Ch.	100,000	10	5 00	6 50	Mammoth	400,000	5	2 10	2 12½
Centennial Eureka	30,000	50	38 00	39 00	Mercur.	200.000	25	6.6 ¾	6 70
Chloride Point.	500,000	1	1 16½	1 20	Northern Light.	400,000	5	.89	90
Daisy.	500,000	3	.33¾	.35	Omaha.	300.000	2	.40¾	.43
Dalton.	500,000	5	.02¾	.02¾	Ontario.	150,000	100	7.25	8.30
Dalton & Lark.	2,500,000	1	.11¾	.12¾	Richmond-Am.	500,000	1	.06¾	.07
Daly.	150,000	20	1.30	1.47½	Sacramento	1,000,000	5	.46¾	.47
Daly West.	75,000	20	11.00	12 00	Silver King	150,000	20	34 00	40.00
Dexter.	200,000	5	3.22½	3.35	Star Consolidat'd	500,000	1	1.40	1.42½
Eagle.	150,000	1	.15	.18	Sunbeam.	250,000	1	.30	.33
Eagle & Blue Bell.	250,000	1	1.85	2 10	Sunshine.	250,000	10	61	66
Emerald	300,000	1	.15¼	.16¾	Swansea	100,0.0	5	3 40	3 62½
Four Aces.	250,000	1	.65¾	.66¾	South Swansea.	150,00	1	1 20	1.25
Galena	100,000	10	.53	55	Tetro.	300,000	1	.10¾	.11¾
Geyser-Marion.	300,000	5	.87½	.88¾	Utah.	100,000	1	90	1 00
Grand Central	250,000	1	6.85	7.35	Valeo	200,000	10	1 50	1.52½

*From Our Special Correspondent. † Utah companies. ‡ Mines in Vanderbilt, Cal. Mines in Tuscarora, Nev.

SPOKANE WASH.‡ Feb. 9.

Name.	No. of shares.	Par value.	Quotations.	Name.	No. of shares.	Par value.	Quotations.
Ben Hur	60 000	$1	$0.3 ¾	*Number Six.	1,0 0,000	$0 10	$0.12
Black Tail.	.000,000	1	.22	Palo Alto	1,000,000	1	14¾
Bryan & Sewall.	1,000,.00	1	08	*Pearl	1,0 0,0 0	1	.13¾
Butte & Boston.	1,000, 0.)	1	.15¾	Pcahontas	1,0.0, 0	1	04
Fardo ar	1,000.000	1	.13	Princess Maud	1,000.0.0	1	16
Eureka Fir t Thoug't	1,0.0,0 0	1	.05	Quilp	1,00 0.0	1	.15¾
Eureka Queen.	1 000.0 0	1	.08	*Rebate	1,000,000	1	22
Gold Harvest Con	1, 00, 00	1	05	Republic Gold	1,0.0,000	1	3.65
Gold L af	1,000.0.0	1	.05	epublic Big Six.	1,25 ,000	1	.08½
Iron M nitor	1,00 .0.0	1	.12	Republic No 2.	1, 0 .000	1	08
*Jim Blaine.	1,0.0,000	1	57	San Poil	500,000	1	.51
Liberty	1,0.0,000	1	.14	*Surprise.	1,000 000	1	.1
*Lone Pine Con.	1 0 0,0 00	1	42½	Thoughtful	1,0.0,0 0	0 10	.02
Merrimac	1,00,.00	0.10	.09¾	Tom Thumb.	1,000.0 0	1	54
Monro	1,0 0,000	1	03	Trade Dollar	1,00,000	0.1	.12
Morning Glory.	1,00 00	0 10	.23	Treasury	1,000,00	0 10	.05
Mountain Lyon.	1, 00 00	1	85	.....	.....	.....	.....

‡ Telegraphic quotations of the British-Canadian Investment and Mining Syndicate.
* Under Republic management.

TORONTO, CAN.*

NAME OF COMPANY.	Par val.	Feb 3. B.	Feb 3. A.	Feb 4 B.	Feb 4 A.	Feb 6 B.	Feb 6 A.	Feb 7. B.	Feb 7. A.	Feb 8. B.	Feb 8. A.	Feb. 9. B.	Feb. 9. A.	Sales
Ontario:														
Ham. Reef	$1	.34½	37	.34½	.38	36¾	.38	35	.38	.39	38	...	...	4,500
Hiawatha	1	25	.36	.24	.34	.25	.36	24	.25	24	.25	.....	...	1,800
Olive.	1	.96	97	96	97	.96	97	.96	97	96	.98½	...	...	100
Saw Bill	1	.2)	.25	29	.28	.28	.33	31	.40	35	.38	...	...	3,400
Sup G & C.	1	.08	.10¾	.08	11	.08	.11	.08	.11	.08	.11	...	...	.....
British Col.:														
Athabaska.	1	.58¼	60	58¾	60	58	.61	58	62	.56	.62	.....	...	600
C'rib G.	1	1.46	1.48	1 50	1 55	1 58	1.65	1 65	1 70	1.74½	1 75	.....	...	650
CrownN P.C	1	54 00	55 .0	53 50	54 00	53 50	58 00	55 50	58.00	55 50	57 00	.....	...	170
Dardanelle's	1	.16	.17¾	16¾	.18	17¾	.20	18	20	18	20	...	...	5,000
Deer Park	1	.17¾	18	17¾	.18¾	17¾	.18	17	19	17	19	.....	...	1,650
Dundee	1	.33½	35	.32¾	.35	.32	.35	32¾	.34½	33	35	.....	...	1,6 0
Even'g Star.	1	09¾	.08	0.8	.09	08¾	.19	10¾	12	11	.12¾	...	...	2,0.0
Gold Star.	....	45	50	45½	47	.45	.46¾	45¾	47¾	45	47	.....	...	2,200
Grand Prize	1	.02	04	.....	04	.....	.....	.....	.....	01½	04	.....	...	.....
Iron Colt	1	9	10¾	08	.10¾	.11	09¾	10¾	10	10	10¾	.....	...	500
Minnehaha	1	17¾	.18¾	20¾	23¾	.22	24	23¾	.25	23½	25¾	.....	...	36,400
Monte Crist	1	09	.10	09¾	.10¾	09¾	.10¾	09¾	10	09¾	10	.....	...	.....
Montr'l G.F.	1	20	22	.19¾	.22	.21	25	20	22	21	.23	.....	...	.....
Noble Five.	1	16	.17¾	17	.18	17	19	18¾	20	19¾	.21	.....	...	1,000
N'rth'n Belle.	1	.01	.03½	..	03¾	.....	.03¾	.....	.03¾	03¾	.....	.....	...	.....
Novelty	1	.....	0.3¾	.....	.04	02¾	.04	03	04	03	04	.....	...	.....
Silver Bell	1	.....	07	04	.07	04¾	06	04¾	.07	04	06¾	.....	...	.....
Smuggler, g.	1	06¾	.07¾	06¾	07¾	06¾	07¾	06¾	07¾	06	06¾	.....	...	1,5.0
Van Anda.	1	03¾	.04¾	.....	.04¾	.....	.04¾	.....	.....	04	.06	.....	...	2,5.0
Victory Tri.	1	.....	07	.03	08	03	.07	04¾	.07	05	06¾	.....	...	6,000
Waterloo	1	17¾	18¾	09½	.12	.....	.09¾	10¾	13½	11¾	.13¾	...	...	4,000
White Bear.	1	.04½	.05¾	.04½	06	.04	05	04¾	05¾	.04	04¾	...	...	.....
Develop Co.														
B.C Gold F.	1	06¾	.07¾	.06¾	07	06¾	.07	05	06¾	05	.06¾	.....	.....	.....
Gold Hills	1	05	07	.05	06¾	05	07	05	07	.07	.....	.....	.....	.....

* Official quotations of the Toronto Mining and Industrial Exchange. Total shares sold, 43,4.0.

MEXICO.

Feb. 2.

NAME OF COMPANY.	No. of shares.	Last div'd.	Prices. Op'g	Prices. Cl'g.	NAME OF COMPANY.	No. of shares.	Last div'd	Prices. Op'g	Prices. Cl'g
Chinuahua:					Hidalgo:				
Gloria	1,500	.....	$60	$50	Real del Monte.	2,354	10 00	770	7
Durango:					San Francisco.	6,000	2.00	28	27
Barradon y Cab	2,400	.....	150	100	San Rafael y An.	1,200	6 00	980	1,00
Candelaria de Pan.	1,200	.....	30	20	do aviado	1,200	6 00	800	46
Capuzaya	2,400	.....	10	50	do. del Oro.	3,000	.....	15	1
Penoles	2,500	30.00	2,300	2,000	Soledad.	900	5 00	37	35
Restauradora	10,000	.....	20	30	Sorpresa.	900	4 00	220	30
Rosario y Anexas	4,800	.....	20	10	Union.	2,000	4.00	370	40
Guanajuato:					Mexico				
angustias.	2,400	5 00	330	310	Coronas	500	.....	75	7
Cinco Senores y An	2,0.0	15.00	370	330	Esperanza y An.	3,000	10 00	1,400	1,45
El Oro.	500	.....	80	80	Michoacan				
do. pref.	2,000	.....	80	80	Luz de Borda ava	3,000	.....	20	28
Guadalupe	10,0.0	4 00	240	220	do aviado.	1,000	.....	15	20
Trinidad, aviador	2,000	.....	10	90	Pueblo:				
do. aviado.	400	.....	90	90	Tlaxingo.	2,400	.....	40	27
Zona Minera de Paz	2,400	.....	85	100	S. Luis Potosi:				
Hidalgo:					Concep. y An.	2,400	.....	130	125
Amistad y Concord.	9,600	1.30	31	29	Sta. Mariadela Paz	2,400	10 00	700	715
aviado	720	.....	200	200	Zacatecas:				
Bartolome de Med.	2,000	3.00	80	95	Asturiana y An	3,500	10.00	110	75
Carmen.	1,1.0	7.75	50	520	Cabezon	2,400	.....	20	15
Luz de Maravillas.	1,100	.....	180	200	C'delar. de Pinos.	2,500	.....	130	1.0
Pabellon.	1,000	27.80	40	20	Palma de Somb.	2,400	.....	110	100

NOTE.—In most of the older Mexican mining companies the shares have no fixed par value. The capital is formed of a certain number of shares, the total value not being named. Many newer companies have a nominal par value, usually $50 or $100. Prices are in Mexican dollars.

SHANGHAI, CHINA.* Dec. 31.

NAME OF COMPANY.	Country.	No. of shares.	Value. Par.	Value. Paid up.	Last dividend. Date.	Last dividend. Amount.	Price.
Jelebu Mg. & Trad.	China.	45,000	$5	$5	Oct., 1894.	$0.25	Taels 2.8 5
Punjom Mg., Ltd.	"	6),0.0	8	8	.....	.....	" 4.38
do. pref	"	30,000	1	1	.....	.....	" 1.17
Sauh A'lian G. Mg.	"	200,000	$1	14s. 10d.	July, 1896.	.81	" 33.66
Sheridan Con. M.& M.	Colorado, U.S	20,000	Taels 100	Taels 100	.....	.....	" 2.30

* Special report of J. P. Bissett & Co. The prices quoted are in Shanghai taels.

STOCK QUOTATIONS.

LONDON.

Jan. 27.

NAME OF COMPANY.	Country.	Authorised capital.	Par value.	Last dividend. Amt.	Last dividend. Date.	Quotations. Buyers	Quotations. Sellers
			£ s. d.	s.d.		£ s. d.	£ s. d.
Alaska-Mexican, g	Alaska	£200,000	1 0 0	0 4.8	Jan., 1899	17 6	1 2 6
Alaska-Treadwell, g	"	1,000,000	5 0 0	1 6	"	4 7 6	4 12 6
Anaconda, c., s	Montana	6,000,000	5 0 0	5 1½	Nov., 1898	8 0 0	8 15 0
Cariboo, g f, pref	BritishCol'mbia	160,000	1 0 0			15 0	1 0 0
Chiapas, g., s., c	Mexico	252,500	1 0 0			5 0	7 0
Con. Gold Fields	"	900,000	1 0 0			15 0	1 0 0
De Lamar, g., s	Idaho	400,000	1 0 0	6	May, 1898	4 6	5 0
Elkhorn Priority (New), s	Colorado	87,500	1 0 0	1 0	June, 1898	1 6	2 6
Golden Gate, g	California	80,000	1 0 0			2 6	5 0
Grand Central, g., s	Mexico	300,000	1 0 0	2 0	Dec., 1898	1 6 3	1 8 9
Hall Mines, c., s	British Col	250,000	1 0 0	1 0	May, 1898	10 0	12 6
Le Roi, g	" "	1,000,000	5 0 0			5 12 6	5 15 0
Lillooet, F. R. & Car., g	" "	300,000	1 0 0			5 0	10 0
Montana, g., s	Montana	600,000	1 0 0	0 3	May, 1898	7 6	7 9
Mountain Copper	California	1,250,000	5 0 0	2 6	Sept., 1898	5 17 6	6 2 6
Palmarejo & Mexican, g	Mexico	80,000	1 0 0			1 1 6	2 6
Plumas-Eureka, g	California	281,250	2 0 0	0 6	Oct., 1896	2 6	3 6
Richmond, g., s., l	Nevada	270,000	5 0 0	1 0	Dec., "	5 0	7 6
Sierra Buttes, g	California	245,000	2 0 0	0 6	Apr., "	1 6	2 6
Solomb. Hydraulic, g	Colombia	75,000	1 0 0	6	Jan., 1859	11 3	13 9
Copiapo, c	Chile	300,000	2 0 0	2 0	Dec., 1898	3 2 6	3 7 6
Frontino & Bolivia, g	Colombia	140,000	1 0 0	1 6	Dec., 1898	2 2 6	2 7 6
St. John del Rey, g	Brazil	600,000	1 0 0	0 6	July, 1898	1 7 6	1 10 0
Tolima A., s., g	Colombia	70,000	5 0 0	5 0	July, 1897	1 5 0	1 15 0
Tolima B., s., g	"	80,000	5 0 0	5 0	"	1 5 0	1 5 0
Utah Con., g	Utah	300,00	1 0 0	1	Jan., 1899	5 5 0	5 10 0
British Am. Corp.	BritishCol'mbia	1,500,000	1 0 0	rts.	Dec., 1897	17 6	17 6
Linares, l	Spain	45,000	3 0 0	12 6	Sept., 1898	8 5 0	8 5 0
Mason & Barry, c., sul	Portugal	630,000	3 0 0	4 0	Oct., 1898	3 1 0	3 15 6
Rio Tinto, c	Spain	1,625,000	5 0 0	£1	Nov., 1898	35 10 0	35 12 6
" " pref	"	1,625,000	5 0 0	2 6	May, 1898	6 1 3	6 3 9
Tharsis, c	"	1,950,000	2 0 0	10	"	8 7 6	8 12 6
Assoc. Gold Mines	W. Australia	5 0,000	1 0	2 0	July, 1898	6 10 0	6 12 6
†Broken Hill Prop., s	N.S. Wales	384,000	8 0	1 6	Jan., 1899	2 2 6	2 5 0
Great Boulder, Prop.	W. Australia	1,750,000	1 0	2 0	Feb., 1899	1 4	1 4 6
Hannan's Brownhill, g	"	110,000	1 0	0 7 6	Nov., 1898	8 7 6	8 10 0
Harquahala	"	300,000	1 0	0 6	Nov., 1894	3	9
Ivanhoe Gold Corp	"	1,000,000	5 0	0		8 2 6	8 5 0
Kalgurlie, g	"	120,000	1 0	0		7 5 0	7 7 6
Lake View Consols, g	"	250,000	1 0	0 16 0	Apr., 1898	10 1 3	10 3 9
Mt. Lyell M. & R., l., c	Tasmania	900,000	3 0	0 2 6	Jan., 1899	6 7 6	6 12 6
Mt Morgan, g	Queensland	1,000,000	1 0	0 7	Jan., 1899	5 10 0	5 15 0
Waihi g	New Zealand	320,000	1 0	0 2 0	Dec., 1898	5 8 9	5 11 3
West Aust. Jt. Stk. Lin. & F	W. Australia	1,000,0	1 0	0 1 0		10 6	11 0
Champion Reef, g	Colar Fields	220,000	1 0	0 4	Jan., 1899	4 17 6	5 0 0
Mysore Gold, g	"	250,000	1 0	0 5 0	Nov., 1898	5 8 9	5 11 3
Mundydrog, g	"	242,000	1 0	0 3 4	"	3 16 9	3 11 3
Ooregum, g	"	145,000	1 0	0 1 0	Dec., 1898	3 13 9	3 16 3
" pref. g	"	120,000	1 0	0 1 0	"	4 5 0	4 7 6
Angelo, g	Transvaal	275,000	1 0	0 5 0	Jan., 1899	7 15 0	8 0 0
Bonanza, g	"	200,000	1 0	0 10 0	Dec., 1898	4 5 0	4 7 6
British S. Af., chartered	So. Africa	3,750,000	1 0	0 rts.	Apr., 1898	3 15 0	3 16 3
Cape Copper, c	"	600,000	1 0	0 7 0	Jan., 1899	4 0 0	4 5 0
" pref	"	150,000	2 0	0 7 0	"	4 0 0	4 0 0
City & Suburban (New), g	Transvaal	1,360,000	2 0	0 6 0	Feb., 1899	6 10 0	6 15 0
Con Deep Level, g	"	200,000	4 0	0 xb.	Apr., 1898	3 5 0	3 7 6
Crown Reef, g	"	120,000	1 0	0 10 0	Feb., 1899	14 10 0	14 15 0
De Beers Con., d	Cape Colony	3,950,000	1 0	0 £1	Dec., 1898	28 1 3	28 13 9
Durban Roodepoort, g	Transvaal	135,000	5 0	0 4	Dec., 1898	6 5 0	6 10 0
Ferreira, g	"	90,000	1 0	0 30 0	Dec., 1898	25 5 0	25 15 0
Geldenhuis Deep, g	"	350,000	1 0	0 9 0	Feb., 1899	11 15 0	12 0 0
Geldenhuis Est., g	"	200,000	1 0	0 7 6	" 1899	7 15 0	8 0 0
Ginsberg, g	"	160,000	1 0	0 4 0	Jan., 1899	3 15 0	3 17 6
Henry Nourse, g	"	125,000	1 0	0 10 0	Feb., 1899	9 8 9	9 11 3
Heriot (New), g	"	115,000	1 0	0 5 0	" 1899	7 5 3	8 0 0
Jagersfontein, g	Orange Fr. St	1,000,000	1 0	0 6 0	Sept., 1898	11 7 6	11 12 6
Johannesburg Con. Invst	So. Africa	2,750,000	1 0	0 2 0	Aug., 1897	1 15 0	1 17 6
Jubilee, g	Transvaal	50,000	1 0	0 5 0	Feb., 1899	6 2 6	6 7 6
Jumpers, g	"	100,000	1 0	0 10 0	" 1899	6 7 6	6 2 6
Kleinfontein, g	"	275,000	1 0	0 rts.	Apr., 1898	2 16 3	2 18 9
Langlaagte Estate, g	"	500,000	1 0	0 3 0	Sept., 1898	4 0 0	4 2 6
May Con. (New), g	"	275,000	1 0	0 1 6	Jan., 1899	4 8 9	4 11 3
† Meyer & Charlton, g	"	85,000	1 0	0 7 0	Jan., 1899	5 17 6	6 2 6
Namaqua, c	Cape Colony	200,000	1 0	0 2 6	Dec., 1898	3 13 9	3 16 3
Primrose (New), g	Transvaal	300,000	2 0	0 6 0	Jan., 1899	5 15 0	5 17 6
Rand Mines, g	So. Africa	400,000	1 0	0 £1	Feb., 1899	40 0 0	40 5 0
Robinson, g	Transvaal	2,750,000	1 0	0 9 0	" 1899	10 0 0	10 5 0
Sheba, g	"	1,100,000	1 0	0 0 6	July, 1898	1 13 9	1 15 0
Sim. & Jack Prop., g	"	5,000,000	5 0	0 5 6	Jan., 1899	5 17 6	6 2 6
Sim. & Jack West, g	"	400,000	1 0	0		4 12 6	4 15 0
Sim. & Jack East, g	"	70,000	1 0	0		3 12 6	3 15 0
Wemmer, g	"	60,000	1 0	0 15 0	Nov., 1898	12 10 0	12 15 0
Wolhuter, g	"	800,000	4 0	0 2 0	Feb., 1899	5 0 0	5 15 0
Worcester, g	"	100,000	1 0	0 8 0	Oct., 1898	2 17 6	3 2 6

† Ex-dividend.

PARIS.

Jan. 19

NAME OF COMPANY.	Country.	Product.	Capital Stock.	Par value.	Latest divs.	Prices. Op'ning.	Prices. Closing.
			Francs.	Fr.	Fr.	Fr.	Fr.
Acieries de Creusot	France	Steel mfrs.	27,000,000	2,000	75.00	2,150.00	2,062.00
" " Firminy	"	"	3,000,000	500	85.00	3,340.00	3,260.00
" " Fives-Lille	"	"	12,000,000	500	35.00	541.00	535.00
" " Huta-Bank	Russia	Iron & steel		500		4,345.00	4,350.00
" " la Marine	France	Steel mfrs.	20,000,000	500	40.00	1,555.00	1,555.00
" " Longwy	"	"		500	35.00	1,120.00	1,115.00
Anzin	"	Coal			190.00	5,480.00	5,450.00
Blache-St. Vaast	"	Steel	1,000		160.00	3,800.00	3,800.00
Boleo	Lower Cal.	Copper	500		93.50	1,990.00	2,070.00
Briansk	Russia	Coal & Iron	500			1,300.00	1,342.50
Bruay	France	Coal	3,000,000	400	900 00	39,400.00	38,615.00
Cape Copper	S. Africa	Copper	15,000,000	50	1.50	126.00	119.50
Champ d'Or	"	Gold	8,375,000	25		49.0	44.00
Courrieres	France	Coal	60,0.0	500	60.00	2,150.0	2,100.00
De Beers Consolidated	S. Africa	Diamonds	98,750,000	125	15.63	692.50	709.00
Denain-Anzin	France	Steel		500	20.00	8 0.00	8 5.0
Dombrowa	Russia	Coal		500	12.50	1,095.00	1,070.00
Donatz	"	Steel				1,030.00	1,020.00
Dourges	"	Coal		1,000	300.00	21,000.00	20,945.00
Dynamite Centrale	France	Explosives		500	12.50	485.00	493.00
Epinac	"	Coal		2,500	20.83	600.00	600.00
Escombrera-Bleyberg	Spain	Lead		500	35.00	1,035.0	1,075.00
Fraser River	Brit. Col'mb	Gold	250.0.0	25		7.00	7.50
Huanchaca	Bolivia	Silver	40,000,000	125	5.00	51.00	48.00
Langlaagte Estate	S. Africa	Gold	11,750,000	25	11.25	99.0	99.0
Lagunas	Chile	Nitrates	16,250,000	125	12.5	31.00	33.00
Laurium	Greece	Zinc & lead	16,300,000	500	31.0	695.0	690.00
Lautaro	Chile	Nitrates	13.750,000	125		94.00	100.00
Malfidano	Italy	Zinc	12,500,000	500	40.00	1,1.5.00	1,122.0
Metaux, Cie. Fran. de	France	Metal d'lers.	25,000,000	500	3 .00	493.00	488.0
Mokta-el-Hadid	Algeria	Iron	18,312,500	500	40.00	1,045.0	1,025.00
Napthe Baku	Russia	Petroleum				744.00	744.0
Napthe, Le	"	"				2,7 0.0	2,730.0
Napthe Nobel	"	"				578.50	570.0
" parts	"	"				11,600.0	11 430.00
Nickel	N. Caled'nia	Nickel	10,000,000	2 0	30.00	332.0	339.00
Paccha-Jazpampa	Chile	Nitrates	9.000.000	125		2 50	12 50
Penarroya	Spain	Coal, etc		500	65.00	2,400.0	2 4 .00
Rebecca	Colo'do, U.S.	Gold	5,000,000	25		3.50	3 50
Rio Tinto	Spain	Copper	40,625,000	125	17.50	835.00	875 0
" preferred	"	"	40,625,000	125		155.00	154 0
Rive-de-Gier	France	Coal				22.00	22 50
Robinson	S. Africa	Gold	68,750,000	125	12.50	235 50	249.00
St. Etienne	France	Coal				18.00	19.00
Salines de l'Est	France	Salt		500	11.5	285.0	285.0
Salines du Midi	France,	" etc		500	20.00	875.00	875 00
Sels Gem. de la Rus. Mer	Russia	" etc		500	25.00	558.0	561 0
Tharsis	Spain	Copper	33,750,000	50	8.75	208.50	2.8.50
Vicoigne-Nœux	France	Coal		1,000	700 00	23,280.0	23,245.0
Vielle Montagne	Belgium	Zinc	9,000,000	80	30.00	748 75	736.25

MEETINGS.

NAME OF COMPANY.	Location	Meeting.	Date.	Place.
Alamo	Utah	Annual.	Feb. 21	8 West 2d South st., Salt Lake City, Utah.
Alliance	Utah	Special	Mar. 4	Progress Block, Salt Lake City, Utah
Battle Mtn. Con	Colorado	Annual	Feb. 23	Victor, Colo.
Copper Queen Con.	Michigan	"	Feb. 14	11 Cliff st., New York City.
Daly	Utah	"	Feb. 15.	Salt Lake City, Utah.
Daly-West	"	"	Feb. 20	" "
Eagle	Ore on	"	Feb. 20	" "
Emerald	Utah	"	Feb. 5.	" "
Eureka Hill	"	"	Feb. 5	" "
Geyser	Colorado.	"	Feb. 20.	Silver Cliff, Colo.
Great Eastern	Utah	"	Feb. 13	Salt Lake City, Utah
May Day	"	"	Apr. 7	Salt Lake City Utah.
Moon-Anchor	Colorado	"	Feb. 18.	Colorado Springs, Colo.
Morgan	Utah	"	Feb. 19.	Salt Lake City, Utah.
Standard Con	California	"	Feb. 27.	3 0 Pine st., San Francisco, Cal.
Star	Utah	"	Mar. 21	Salt Lake City, Utah
Tecumseh	Michigan	"	Feb. 17	Boston, Mass.
United Verde	Arizona.	"	Feb. 20.	43 Cedar st., New York City.
Victor	Utah	"	Feb. 14.	308 McCormick bld. Salt Lake City, Utah.
Watt Blue Gravel	California	"	Feb. 24	323 Montgomery st., San Francisco Cal.
Yankee Girl	Utah	"	Feb. 20.	00 Main street, Salt Lake City, Utah.

DIVIDENDS.

NAME OF COMPANY.	Current dividends. Date.	Current dividends. Am't.	Paid since Jan. 1, 1899.	Total to date.
*Alaska-Mexican			$18,000	$335,031
*Alaska-Treadwell			75,000	3,990,000
*Ætna Con			10,000	160,000
*Anchoria-Leland			18,000	192,000
*ApolloCon., Ala			40,000	140,000
*Boston & Colo. Sm			75,000	300,000
Boston & Mont.	Feb. 20	750,000	750,000	9,875,000
Breece	Mar. 1	10 000	10,000	40,000
*Bunker Hill & S.	Feb. 4	21,000	42 000	642,000
*Centenn'l Eureka			15,000	2,025,000
*Central Lead	Feb.	5,000	10,000	92,000
*Colorado Sm			100,000	1,945,000
*Deer Trail No. 2, Wash			2,500	17,500
*Doe Run	Feb.	2,500	5,000	65,000
Empire State, Ida.	Feb. 15	15,000	15,000	76,902
*Germania Lead			3,750	
*Gold Coin, Vict			10,000	16,,0
*Golden Cycle			5,000	158,500
Gold King, Col	Feb. 20	10,000	10,000	10 0
*Grand Central, Ut			31,250	250,000
*Grass Valley Ex			7 500	
*Highland	Feb. 16	20,000	40,000	3.824,718
*Homestake			62,500	7,243,750
*Idaho, B. C			28,000	292,000
†Lillie	Feb. 1	12,500	25,000	62,500
*Mercur			25,000	1.266.000
*Mont. Ore Pur			$80.000	$880.000
*Morning Star, Cal			9,600	688,200
Moulton, Mont	Feb 15	20 000	2 1,000	480 000
*Napa Con			20,000	970,000
*New Idria			20,000	100,000
N. Y. & Hond-Rosario	Feb. 20	15,000	15,000	990,000
*Parrot			69,000	2,207,898
*Pennsylvania			2.575	54,225
*Plumbago, Cal.			45 000	45,000
*Portland	Feb. 15	60,000	120 000	2,827,080
Quincy	Feb. 15	350,000	350,000	10,470,000
*Republic, Wash			30,000	120,000
*Sacramento	Feb. 1	5,000	10,000	67,000
*Silver King			50,000	1,890,000
*Smuggler			10,000	1,105,000
*Stroag			25 000	470,090
*Swansea			5,000	141,500
*Utah, Utah			2,000	179.000
*Vindicator			50 750	177.625
*War Eagle, B. C.	Feb. 15	26,250	52 500	230,250
*Yellow Aster			10,000	168,780
Totals			$1,332,250	$2,429,925	$57,344,468

*January dividend paid. †Paid by the English Company.

ASSESSMENTS.

NAME OF COMPANY.	Location.	No.	Delinq	Sale	Amt.
Andes	Nev.	47	Jan. 24	Feb. 16	.05
Chollar	Nev.	48	" 26	" 16	.10
Chic'go & Mercur	Utah		D c. 12	March 3	.01
Diamond Con.	Utah		Feb. 20		.04
Eureka Con.	Cal	16	" 24	March 10	.00½
Hale & Norcross	Nev.	1	Feb. 7	Feb. 28	.15
Julia, Con.	Nev.	29	Feb. 17	March 8	.03
Justice	Nev.	64	" 25	" 16	.03
Larkin	Utah	4	" 15	" 4	.02
Marguerite	Cal.	12	" 6	" 6	.10
Marina Mersicano	Cal	17	" 21	" 13	.04
May Day	Utah		Jan. 3	Feb. 22	.00½
Montreal	Utah		Jan. 9	Feb. 15	.05
Morning Star	Nev.		Dec. 24	" 21	.01½
National Con.	Cal	5	Jan. 20	" 15	.10
Savage	Nev.	97	Feb. 6	" 27	.10
Shower Con.	Utah	1	March 1	April 3	.02
Sierra Nevada	Nev.	115	Feb. 21	March 13	.20
Silver King	Arizona	20	" 21	" 21	.25
Snow Flak	Utah	11	" 13	" 4	.01
Star	Utah		" 25	" 13	.03
Success	Utah	2	" 18	" 11	.00¼
Troy	Alaska	5	Feb. 6	Feb. 23	.06¼

DIVIDEND-PAYING MINES.

	Name and Location of Company.		Capital Stock.	Shares. No.	Shares. Par Val	Assessments. Total Levied.	Assessments. Date and Amount of Last.			Dividends. Total Paid.	Dividends. Date and Amount of Last.		
1	Adams, s. l. c.	Colo..	$1,500,000	150,000	$10	*				$698,500	Oct..	1895	.04
2	Ætna Cons., q.	Cal..	500,000	100,000	5	*				160,000	Jan..	1899	.10
3	Alaska-Mexican, g.	Alask	1,000,000	200,000	5					317,031	Nov..	1898	.10
4	Alaska-Treadwell, g.	Alask	5,000,000	200,000	25	*				3,925,000	Nov..	1898	.37½
5	Alice, g. s.	Mont.	10,000,000	400,000	25	*				1,075,000	April.	1898	.05
6	American Gold, g. s. c. l	Colo..	3,000,000	300,000	10	*				362,000	Oct..	1898	.09
7	Anaconda Copper	Mont.	30,000,000	1,200,000	25					8,250,000	Nov.	1898	1.25
8	Anchoria-Leland, g.	Colo..	600,000	600,000	1	*				180,000	Jan..	1899	.01
9	Argentum Juniata, g. s. l	Colo..	2,600,000	1,300,000	2	*				156,000	Oct..	1895	.03
10	Associated, g.	Colo.	1,250,000	1,250,000	1	*				62,000	Dec..	1898	.01
11	Atlantic, c.	Mich.	1,000,000	40,000	25					780,000	Feb..	1898	1.00
12	Aurora, i.	Mich.	2,500,000	100,000	25	*				750,000	May..	1898	.50
13	Bald Butte	Mont.	250,000	250,000	1	*				649,648	Dec..	1898	.06
14	Bangkok-Cora Bell, s. l.	Colo..	600,000	600,000	1					106,000	July..	1896	.01
15	Big Six, g. s.	Colo..	500,000	500,000	1					15,000	May..	1898	.00½
16	Boston & Colorado, i.	Colo..	750,000	15,000	50					300,000	Jan..	1899	5.00
17	Boston & M. Cons., g. s. c	Mont.	3,750,000	150,000	25	*				9,125,000	Nov..	1898	5.00
18	Breece, i.	Colo..	5,000,000	200,000	25					30,000	Dec..	1898	.05
19	Bullion-Beck & Champ.	Utah.	1,000,000	100,000	10	*				2,318,400	Nov..	1898	.10
20	Bunker Hill & S., s. l.	Idaho	3,000,000	300,000	10					621,000	Jan..	1899	.07
21	Calumet & Hecla, c.	Mich.	2,500,000	100,000	25					56,850,000	Dec..	1898	10.00
22	Caribou, g.	B. C..	800,000	800,000	1					236,965	Aug..	1898	.02
23	Centen l-Eureka, g. s. l. c	Utah.	1,500,000	30,000	50	30,000	Mar..	1898	1.00	2,010,000	Mar..	1897	1.00
24	Central Lead, l.	Mo..	1,000,000	10,000	100	*				87,000	Jan..	1899	.50
25	Champion, g. s.	Cal..	340,000	34,000	10					296,200	April.	1898	.25
26	Charleston, p. r.	S. C..	1,000,000	10,000	100	*				180,000	Dec..	1898	1.50
27	Colorado, Sm., g. s. c	Mont.	1,000,000	100,000	10	*				1,945,000	Jan..	1899	1.00
28	Con. Tiger & Poorman	Idaho	1,000,000	1,000,000	1	*				20,000	Dec..	1898	.02
29	Creston Leasing	Colo..	1,000,000	1,000,000	1					10,000	Dec..	1898	.01
30	Crowned King, g. s. l.	Ariz.	6,000,000	600,000	10	*				232,000	Dec..	1898	.02
31	Dalton & Lark, s. l.	Utah.	2,500,000	2,500,000	1					87,500	Aug..	1896	.00½
32	Daly, s. l.	Utah.	3,000,000	150,000	20	*				2,925,000	Mar..	1897	.25
33	†Deadwood-Terra, g.	S. D..	5,000,000	200,000	25	*				1,350,000	May..	1898	.15
34	De Lamar, g. s.	Idaho	2,000,000	400,000	5					2,298,000	May.	1898	.29
35	Della S.	Colo..	1,000,000	1,000,000	1					60,000	Jan..	1897	.10
36	Dutch, g	Cal..	1,500,000	150,000	10					39,000	Feb..	1898	.04½
37	Elkton Cons., g.	Colo..	1,250,000	1,250,000	1					656,961	Nov..	1898	.01½
38	El Paso, g. s.	Colo..	650,000	650,000	1					12,393	Jan..	1898	.01
39	Enterprise, s. l.	Colo..	500,000	500,000	1					900,000	Sept..	1898	.05
40	Empire State-Idaho	Idaho	1,000,000	100,000	10					61,902	Dec..	1898	.10
41	Fern	B. C..	200,000	200,000	1					10,000	Jan..	1898	.05
42	Florence, s.	Mont.	2,500,000	500,000	5	*				137,530	Aug.	1897	.01
43	Franklin, c.	Mich.	1,000,000	40,000	25					1,240,000	Jan..	1894	2.00
44	Galena, g. s. l.	Utah.	1,000,000	100,000	10					71,000	Jan..	1897	.05
45	Garfield-Grouse, g.	Colo..	1,200,000	1,200,000	1	*				24,000	Feb..	1897	.01
46	Geyser-Marion, g.	Utah.	1,500,000	300,000	5					96,000	Sept..	1898	.02
47	Gold Coin, g. s.	Colo..	1,000,000	200,000	5	*				160,000	Nov..	1897	.05
48	Gold Coin of Victor, g.	Colo..	1,000,000	1,000,000	1					160,000	Jan..	1899	.01
49	Golden Cycle, g.	Colo..	1,000,000	200,000	5					158,500	Jan..	1899	.02½
50	Golden Fleece, g. s.	Colo..	600,000	600,000	1	*				569,179	Feb..	1897	.01
51	Gold & Globe, g.	Colo..	750,000	750,000	1					51,625	July..	1897	.00½
52	Golden Reward, g.	S. D.	1,000,000	100,000	10					155,000	Feb..	1898	.15
53	Grand Central, g.	Utah.	250,000	250,000	1					250,000	Jan..	1899	.12½
54	Hall Mines, Ltd.	B. C..	1,250,000	250,000	5					160,000	May	1898	.25
55	Hecla Cons., g. s. c. l.	Mont.	1,500,000	30,000	50	*				2,175,000	Feb..	1897	.50
56	Helena & Frisco, s. l.	Idaho	2,500,000	500,000	5	*				475,000	Aug..	1896	.04
57	Highland, g.	S. D..	10,000,000	100,000	100	304,000				3,804,718	Jan..	1899	.20
58	Holy Terror, g.	S. D..	500,000	500 600	1					117,000	Sept..	1898	.03
59	Homestake, g.	S. D..	12,500,000	125,000	100	200,000	July..	1878	1.00	7,243,750	Jan..	1899	.50
60	Hope of St. Louis, s.	Mont.	1,000,000	100,000	10	*				762,252	Mar..	1898	.10
61	Horn-Silver, g. s. c. sp. l.	Utah.	10,000,000	400,000	25	*				5,210,000	Oct..	1898	.05
62	Idaho	B. C..	500,000	500,000	1					292,000	Jan..	1899	.05½
63	Iowa, g.	Colo..	1,000,000	1,000,000	1					95,000	June.	1898	.00½
64	Iron Mountain, g. s. l. i.	Mont.	5,000,000	500,000	10	*				507,500	April.	1898	.02
65	Isabella, g.	Colo..	2,250,000	2,250,000	1					270,000	June.	1897	.00½
66	Jersey Leasing	Colo..	200,000	158,167	1					137,875	Oct..	1898	.03½
67	Last Chance, s. l.	B. C..	500,000	500,000	1	*				40,000	Jan..	1897	.04
68	Le Roi	B. C..	2,500,000	500,000	5					825,000	April.	1898	.10
69	§§§Lillie, g.	Colo..	1,250,000	250000	5					37,500	Dec..	1898	.05
70	Mammoth, g. s. c.	Utah.	10,000,000	400,000	25	*				1,350,000	Dec..	1898	.05
71	Matoa, g.	Colo..	1,000,000	1,000,009	1					25,000	Dec..	1898	.02½
72	Mead, g.	Cal..	200,000	200,000	1					80,000	Dec..	1898	.40
73	Mercur, g.	Utah.	5,000,000	200,000	25	*				1,266,000	Jan..	1899	12½
74	Minnesota Iron, l.	Minn.	16,500,000	165,000	100	*				4,735,000	Oct..	1898	1.50
75	Modoc, g.	Colo..	500,000	500,000	1					100,000	Dec..	1898	.01
76	Montana, Ltd., g. s.	Mont.	3,300,000	660,000	5	*				2,925,640	May	1898	.05
77	Montana Ore Purchas'g	Mont.	2,500,000	80,000	25	*				880,000	Jan..	1899	1.00
78	Moon-Anchor, g.	Colo..	600,000	600,000	1	*				261,000	Nov..	1898	.07½
79	Moose, g.	Colo..	600,000	600,000	1					186,000	Jan..	1896	.01
80	Morning Star, g.	Cal..	240,000	2,400	100	70,800	Feb..	1887	.75	678,600	Dec..	1898	5.00
81	Mt. Rosa, g.	Colo..	1,000,000	1,000,000	1					60,000	Jan..	1898	.02
82	Mountain Copper	Cal..	6,250,000	250,000	25					93,750	Sept..	1898	.62½
83	Napa Cons., q.	Cal..	700,000	100,000	7	*				970,000	Jan..	1899	.20
84	New Idria Quicksilver.	Cal..	500,000	100,000	5					100,000	Jan..	1899	.20
85	N.Y. & Hon Rosario, s. g.	C. A..	1,500,000	150,000	10	*				1,102,500	Dec..	1898	.10
86	North Star, g.	Cal..	2,000,000	200,000	10	20,000	June.	1886	.02	500,000	Nov.	1898	.25
87	Ontario, s. l.	Utah.	15,000,000	150,000	100					13,557,500	Nov.	1897	.75
88	Ophir Hill	Utah.	25,000	1,000	25					20,000	Dec..	1898	20.00
89	Osceola, c.	Mich.	2,500,000	100,000	25	*				2,522,500	Dec..	1898	2.00
90	Parrot, c.	Mont.	2,300,000	230,000	10	*				2,207,898	Jan..	1899	.30
91	Pennsylvania Cons.	Cal..	5,150,000	51,500	100	50,051	Feb..	1892	.05	54,225	Jan.	1899	.05
92	Pioneer g.	Cal..	1,000,000	100,000	10					50,000	Dec..	1898	.12½
93	Plumbago, g.	Cal..	300,000	300,000	1					45,000	Jan..	1899	.15
94	Portland, g.	Colo..	3,000,000	3,000,000	1	*				2,227,080	Dec..	1898	.02
95	Princess, g.	Colo..	1,000,000	1,000,000	1					45,000	Feb..	1897	.00½
96	Quincy, c.	Mich.	2,500,000	100,000	25	*				10,470,000	Feb..	1899	3.50
97	Rambler-Cariboo	B. C..	1,000,000	1,000,000	1					40,000	April.	1897	.02
98	Raven, g.	Colo..	1,500,000	1,500,000	1					15,000	Mar..	1898	.01
99	Reco, s. l.	B. C..	1,000,000	1,000,000	1					297,500	Jan..	1898	.10
100	Republic, g.	Wash	1,000,000	1,000,000	1					120,000	Jan..	1899	.03
101	Sacramento, g.	Utah.	5,000,000	1,000,000	5					62,000	Jan..	1899	.00½
102	St. Joseph, l.	Mo..	3,000,000	300,000	10	*				2,784,500	Dec..	1898	1.50
103	Santa Rosalia, g. s.	Cal..	100,000	100,000	1					125,000	Feb..	1898	.10
104	Silver King, g. s. l.	Utah.	3,000,000	150,000	20	3,000	Jan..	1897	.02	1,800,000	Dec..	1898	.25
105	Slocan Star.	B. C..	1,000,000	2,000,000	0.50					400,000	Mar..	1897	.05
106	Small Hopes, s.	Colo..	5,000,000	250,000	20	*				3,300,000	June.	1898	.10
107	Smuggler, s. l. z.	Colo..	1,000,000	1,000,000	1					1,105,000	Jan..	1899	.01
108	South Swansea, s. l.	Utah.	150,000	150,000	1					104,960	Aug..	1898	.05
109	§Standard Cons., g. s.	Cal..	20,000,000	200,000	100					5,674,940	Aug..	1898	.10
110	Swansea, s. l.	Utah.	500,000	100,000	5					141,500	Jan..	1899	.05
111	Tamarack, c.	Mich.	1,500,000	60,000	25					5,570,000	Dec..	1898	4.00
112	Tomboy, g.	Colo..	2,000,000	200,000	10	*				650,000	Dec..	1898	.25
113	Union, g.	Colo..	1,250,000	1,250,000	1					73,000	June.	1896	.01
114	Utah.	Utah.	1,000,000	100,000	10	*				177,000	Dec..	1897	.01
115	Victor, g.	Colo..	1,000,000	200,000	5	*				1,155,000	Dec..	1898	.50
116	Vindicator, Cons. g.	Colo..	1,500,000	1,015,000	1					177,625	Jan.	1899	.05
117	§§ War Eagle, Cons.	B. C..	2,000,000	1,750,000	1					204,000	Jan..	1899	.01½
118	Western Mine Enterp.	Mont.	500,000	500,000	1	*				48,680	Jan..	1898	.20
119	Whitewater.	B. C..	625,000	125,000	5					194,000	April.	1898	.32
120	Wolverine, c.	Mich.	1,500,000	60,000	25	180,000	Mar..	1895	1.00	60,000	Oct..	1898	1.00
121	Yellow Aster, g.	Cal..	1,000,000	100,000	10	*				168,789	Dec..	1898	.10

NON-DIVIDEND-PAYING MINES.

	Name and Location of Company.		Capital Stock.	Shares. No.	Shares. Par Val	Assessments. Total Levied.	Assessments. Date and Amount of Last.		
1	Ada Cons., s. l.	Utah.	$100,000	100,000	$1	$3,333	Nov..	1895	.01½
2	Alamo, g. c. i.	Utah.	125,000	125,000	1	937	Mar..	1898	.00¾
3	Alliance, g. s. l.	Utah.	100,000	100,000	1	200,000	Dec..	1895	.10
4	Allouez, c.	Mich.	2,000,000	80,000	25	1,520,937	June.	1894	1.00
5	** Alpha Cons., g. s.	Nev..	105,000	105,000	1	316,050	Nov..	1898	.03
6	** Alta, s.	Nev..	216,000	108,000	2	3,664,910	Nov..	1898	.05
7	American Quartz, g.	Cal..	1,000,000	100,000	10	1,000	Feb..	1897	.01
8	Anchor, g. s. l.	Utah.	1,500,000	150,000	10	560,000	Aug..	1803	.20
9	** Andes, g.	Nev..	300,000	100,000	3	1,200,000	Jan.	1899	.05
10	Baliol, g.	Cal..	1,000,000	100,000	10	55,000	Mar..	1898	.30
11	** Belcher, s. g.	Nev..	312,000	104,000	3	3,514,800	Nov..	1898	.10
12	Belle Isle	Nev..	10,000,000	100,000	100	240,271	July..	1896	.10
13	Benton Con. s.	Nev..	10,800,000	108,000	100	587,023	June	1897	.25
14	**Best & Belcher, g. s	Nev..	302,400	100,800	3	2,589,643	Nov..	1898	.10
15	Bogan	Utah.	1,250,000	125,000	10	26,875	Dec..	1897	.01½
16	Boston & Cp. Ck., g.	Co'o..	400,000	200,000	2	20,000	Aug..	1898	.10
17	Brunswick Cons., g.	Cal..	500,000	500,000	1	160,000	July..	1897	.03
18	** Bullion, s. g.	Nev..	100,000	100,000	1	3,120,000	Nov..	1898	.05
19	Caledonia.	Nev..	300,000	200,000	3	3,210,000	ov..	1897	.10
20	Centennial, c.	Mich.	2,500,000	100,000	25	460,000	Mar..	1898	3.00
21	Central Eureka, g.	Cal..	4,000,000	400,000	10	84,000	Jan..	1899	.01½
22	**Challenge Cons, s. g.	Nev..	150,000	50,000	3	427,500	May	1898	.10
23	**Chollar, g. s.	Nev..	336,000	112,000	3	2,059 800	Jan..	1899	.10
24	**Confidence, g. s.	Nev..	74,880	24,960	3	540,126	Nov..	1898	.10
25	**Con., Cal. & Va.	Nev..	540,000	216,000	2½	678,000	July..	1898	.25
26	**Cons. Imperial, g. s	Nev..	500,000	500,000	1	2,246,000	Nov..	1898	.01
27	**Con. New York	Nev..	100,000	100,000	1	160,500	Nov..	1898	.03
28	**Crown Point, g. s.	Nev..	300,000	100,000	3	2,970,000	Nov..	1898	.10
29	Dalton, s. l.	Utah.	2,500,000	500,000	5	53,750	Sept..	1898	.00½
30	Dexter	Nev..	1,000,000	200,000	5	38,000	Apr..	1898	.15
31	Eagle, g. s.	Cal..	500,000	100,000	5	5,000	Dec..	1896	.05
32	Eagle, g. s.	Ore..	1,000,000	100,000	10	6,000	Oct..	1898	.01½
33	Emerald.	Utah	300,000	300,000	1	3,000	Oct..	1898	.00½
34	Eureka Cons., g. s. l.	Nev..	1,000,000	50,000	20	585,000	Sept..	1898	.20
35	Eureka Con. Drift, g.	Cal..	500,000	500,000	1	172,500	Nov.	1898	.00½
36	** Exchequer, g. s.	Nev..	1000,000	100,000	1	1,020,000	Dec..	1897	.05
37	Four Aces.	Utah.	250,000	250,000	1	5,000	Mar.	1898	.01
38	Galena.	Utah.	1,000,000	100,000	10	10,000	Oct..	1898	.10
39	Geyser, s. l.	Colo..	5,000,000	500,000	10	1,125,000	Jan..	1899	.10
40	Gold Belt, g. s.	Utah.	500,000	500,000	1	3,012	July..	1896	.00½
41	Golden Fleece Grav. g	Cal..	130,000	130	1000	56,260	Mar..	1897	2.00
42	Gold King, g.	Colo..	1,000,000	1,000,000	1	*			
43	** Gould & Curry	Nev..	324,000	108,000	3	4,614,350	Dec..	1898	.10
44	Great Eastern, g.	Utah.	1,500,000	300,000	5	5,000	Oct.	1898	.00½
45	Great Western, q.	Cal..	5,000,000	50,000	100	63,026	Jan..	1899	.15
46	Hale & Norcross, g. s.	Nev..	11,200,000	112,000	100	5,088,280	Apr..	1898	.10
47	Horse Shoe Bar Cons.	Cal..	6,000,000	60,000	100	85,800	Jan..	1899	.05
48	Idlewild, g.	Cal..	1,000,000	100,000	10	*			
49	Iron Silver, s. l.	Colo..	10,000,000	500,000	20	*			
50	Jackson, l.	Mich.	300,000	12,000	25	*			
51	Jupiter, g.	Cal..	2,000,000	20,000	100	80,000	Feb..	1898	.20
52	** Julia Con.	Nev..	110,000	110,000	1	1,498,800	Jan..	1899	.03
53	** Justice, g. s. c.	Nev..	210,000	105,000	2	3,646,750	Nov.	1898	.10
54	Kentuck.	Utah.	600,000	300,000	2	30,000	Aug..	1898	.10
55	** Kentuck Cons., s.	Nev..	105,000	105,000	1	125,300	June.	1898	.05
56	Keystone, g.	Colo..	1,500,000	1,500,000	1	*			
57	Lacrosse, g.	Colo..	1,000,000	100,000	10	*			
58	Little Pittsburg	Utah.	2,000,000	400,000	5	18,000	Dec..	1898	.01
59	Lower Mammoth	Utah.	150,000	150,000	1	15,000	Oct..	1898	.05
60	Lucky Bill	Utah.	300,000	120,000	2.50	56,400	June.	1898	.00½
61	Marguerite, g.	Cal..	500,000	50,000	10	70,000	Nov..	1898	.10
62	May Day	Utah.	100,000	400,000	¼	4,000	Jan..	1899	.00½
63	Mayday, g. s.	Cal..	50,000	50,000	1	5,000	May..	1898	.10
64	Mayflower, g.	Cal..	1,200,000	60,000	20	6,000	Sept..	1898	.05
65	Merced, g.	Cal..	1,500,000	100,000	15	200,000	July..	1896	2.00
66	Meteor, s. l.	Utah.	600,000	300,000	2	3,734	Oct..	1898	.00½
67	** Mexican, g. s.	Nev..	302,400	100,809	3	2,258,720	Nov.	1898	.10
68	Montreal.	Utah.	2,500,000	250,000	10	18,125	Jan..	1899	.05
69	Mt. Diablo s.	Nev..	5,000,000	50,000	100	150,000	Dec..	1898	.10
70	Morning Star, s.	Nev..	1,500,000	150,000	10	32,500	Dec..	1898	.00½
71	Nashville, g.	Cal..	115,000	11,500	10	2,000	Sept..	1898	.17
72	North Banner, g. s.	Cal..	1,000,000	100,000	10	21,794	Oct..	1896	.02
73	North Belle Isle, s.	Nev..	10,000,000	100,000	100	523,074	July..	1896	.10
74	***No. Gould & Curry	Nev..	100,000	100,000	1	375,000	Dec..	1898	.10
75	Northern Light, g.	Utah.	2,000,000	400,000	5	80,000	July..	1898	.10
76	**Occidental Cons g s	Nev..	300,000	100,000	3	499,179	Dec..	1898	.10
77	** Ophir, g. s.	Nev..	324,000	108,000	3	4,602,568	Sept.	1898	.15
78	Opohonga.	Utah.	200,000	100,000	2	1,500	June.	1898	.01
79	Oro Cache, g. s.	S. D..	1,250,000	250,000	5	6,250	July..	1893	.00½
80	Osceola, g.	Cal..	10,000,000	100,000	100	10,924	Sept..	1898	.01
81	*** Overman, g. s.	Nev..	230,400	115,200	2	4,129,690	Dec..	1898	.05
82	Peer, s.	Ariz..	10,000,000	100,000	100	215,000	July..	1894	.05
83	Peerless, s.	Nev..	10,000,000	100,000	100	410,000	July..	1894	.02
84	Pine Hill, g.	Cal..	1,000,000	100,000	10	30,000	July..	1897	.05
85	** Potosi, g. s.	Nev..	336,000	112,000	3	2,157,200	Dec..	1898	.10
86	Quicksilver, pref., q.	Cal..	4,300,000	43,000	100	*			
87	Quicksilver, com. q.	Cal..	5,700,000	57,000	100	*			
88	Red Mountain, s.	Colo.	300,000	60,000	5	22,500	Mar..	1891	.12½
89	Rescue. g.	Nev..	100,000	10,000	10	5,000	June.	1898	.10
90	Reward, g.	Cal..	64,000	61,000	1	63,680	Nov.	1898	.02
91	Ridge, c.	Mich.	500,000	20,000	25	239,939	Feb.	1897	1.00
92	St. Mary, c.	Mich.	1,000,000	40,000	25	4,000	July..	1895	.05
93	** Savage, g. s.	Nev..	280,000	112,000	2½	7,298,600	Nov.	1898	.10
94	Scorpion s.	ev..	100,000	100,000	1	445,000	Dec..	1897	.05
95	**Seg. Belcher & Mg s	Nev..	200,000	100,000	2	368,000	Nov.	1898	.03
96	Sevier, g. s.	Utah.	1,250,000	250,000	5	50,000	April.	1897	.04
97	Shower Con.	Utah.	2,000,000	40,000	5	8,000	Mar..	1899	.02
98	**Sierra-Nevada, g. s	Nev.	300,000	100,000	3	6,706,910	Feb..	1898	.20
99	Silver Age, g. s. l.	Colo..	2,000,000	200,000	10	*			
100	** Silver Hill, s.	Nev..	108,000	108,000	1	2,220,200	May	1898	.05
101	Silver King, s.	Ariz..	10,000,000	100,000	100	440,000	Oct..	1898	.25
102	Silver Queen, c.	Ariz..	5,000,000	200,000	25	*			
103	Silver State, g.	Colo..	700,000	700,000	1	*			
104	Silver State, s. g. l.	Utah.	100,000	100,000	1	1,000	Sept..	1897	.00½
105	Siskiyou Con., s.	Cal..	2,000,000	200,000	10	46,000	Apr..	1898	.01
106	South Fork Con.	Utah.	50,000	50,000	1	5,000	Mar..	1898	.01
107	Star, g. s.	Utah.	1,000,000	200,000	5	1,000	Mar..	1898	.00½
108	Sunbeam Cons.	Utah.	250,000	250,000	1	23,125	Nov..	1898	.01
109	Tecumseh, c.	Mich.	1,000,000	40,000	25	40,000	July..	1897	1.00
110	Tenon], g.	Colo..	1,000,000	1,000,000	1	*			
111	Tetro	Utah.	300,000	300,000	1	21,000	Jan..	1899	.01
112	Tombstone, g. s. l.	Ariz.	12,500,000	500,000	25	*			
113	Tornado Con., g. s.	Nev..	100,000	100,000	1	*			
114	** Union Cons., g. s.	Nev..	250,000	100,000	2½	2,633,000	Jan..	1899	.03
115	** Utah Cons., s.	Nev..	100,000	100,000	1	475,000	Jan..	1899	.05
116	Victory, g. s.	S. D..	1,250,000	250,000	5	2,625	Nov..	1896	.00½
117	West Granite Mt., s.	Mont.	500,000	100,000	5				
118	Work, g.	Colo..	1,250,000	1,250,000	1				
119	World, g.	Colo..	1,500,000	1,500,000	1	*			
120	***Yellow Jacket, g. s	Nev..	360,000	120,000	3	5,788,000	May	1898	.20
121	Yellow Jacket.	Utah.	300,000	300,000	1	1,500	Dec..	1897	.00½

G., Gold. S., Silver. L., Lead. C., Copper. B., Borax. * Non-assessable. † The Deadwood previously paid $275,000 in eleven dividends and the Terra $75,000.
§ Bodie, Bulwer and Mono transferred to Standard Cons., January, 1897. Previous to consolidation Bodie paid $1,677,572, Bulwer $190,000, and Mono $12,500.
** Capitalization reduced September, 1898. *** Reincorporated in September, 1898. §§ The old War Eagle Company paid $240,000 in dividends to July, 1897, and levied $32,500 in assessments.
§§§ Lillie transferred to an English company in October, 1898; old company paid $134,110 in dividends to September 1, 1898.
NOTE.—This table is corrected up to January 16. Correspondents are requested to forward changes or additions so as to reach us before the end of each month.

CHEMICALS, MINERALS, RARE ELEMENTS, ETC.—CURRENT PRICES.

NOTE.—These quotations are for wholesale lots in New York unless otherwise specified, and are generally subject to the usual trade discounts. This table is revised up to Jan. 30th. Readers of the ENGINEERING AND MINING JOURNAL are requested to report any corrections needed, or to suggest additions which they may consider advisable. See also Market Review of Chemicals and Minerals.

	Cust.	Meas.	Price.
Abrasives—			
Carborundum, f.o.b. Niagara Falls grains	lb.		$0.15
Powdered	"		.10
Corundum, N. C.	"		.07@.10
Chester	"		.04½@.05
Emery, Turkish flour	"		.03
Grains	"		.05
Naxos flour	"		.03
Grains	"		.05
Chester flour	"		.03
Grains	"		.05
Peekskill flour	"		.01¾
Grains	"		.02½
Crude, Kuluk, best	lg. ton		18.50
Levant, "	"		22.00
Naxos (Greek) best	"		32.00
Pumice Stone, Am. powd.	lb.		.01@½@.02
Italian, powdered	"		.01¼
Lump, per quality	"		.01@.40
Ro tenstone, ground	"		.02¼@.03
Lump, according to quality	"		.06@.18
Rouge	"		.17@.30
Tripoli, prepared	sh. ton		20.00
Acids—Acetic, 30% pure	lb.		.02¾
30% ch. pure	"		.06½
80% pure	"		.09
Glacial, pure	"		.11¾
Chem. pure	"		.21
Benzoic, English	"		1.10
German	"		.48
Boracic, pure cryst	"		.10½@.11
Powdered	"		.11@.11½
Carbolic, cryst. in drums	"		.16
Carbonic, liquid	"		.10
Chromic, crude	"		.25
Chem. pure	"		.40
Absol. ch. pure	"		1.75
Hydrochloric, ch. pure	"		.08
Hydrofluoric, 30%	"		.03@.04½
48%	"		.05@.06
Best	"		.25
Nitric, chem. pure	"		.10
Sulphuric, 98%	"		.02
Chem. pure	"		.07
Sulphurous	"		.03½@.05
Tartaric, cryst	"		.31½@.32
Powder	"		.32@.32½
Alcohol—Grain	gal.		2.44@2.48
Refined wood, 95@97%	"		.75@.80
Purified	"		1.20@1.50
Alum—Lump	100 lbs.		1.65
Powdered	"		2.50
Ground	"		1.75
Chrome, com'l	"		3 50
Aluminum—Nitrate	lb.		1.50
Oxide, com'l	"		.20
Pure	"		.80
Chem. pure	"		1.00
Hydrated	"		.05
Sulphate, pure	"		.02
Ammonia—Aqua, 16°	"		.02½@.03
18°	"		.03@.03½
20°	"		.03½@.04
26°	"		.05½@.06
Ammonium—			
Bromide, pure	"		.52@.53
Carbonate	"		.07¼@.07½
Muriate, gran., white	"		.05¼
Lump	"		.08¼
Gray	"		.05
Nitrate, white, pure (99%)	"		.09
Antimony—Glass	"		.30@.40
Needle, lump	"		.05@.06
Powdered	"		.07@.08½
Oxide, com'l white, 95%	"		.23
Com'l white, 99%	"		.35
Sulphuret, com'l	"		.16
Arsenic—White	"		.04@.04¼
Red	"		.07¾@.08
Asphaltum—California Ventura	sh ton		32.00
Cuban, best	"		40.00
Common	"		20.00
Egyptian	"		130.00
Trinidad, refined	"		40.00
Gilsonite, Utah, ordinary	"		65.00
Select	"		75.00
Barium—Carbonate, lump, 80@90%	"		25.00@27.50
92@98%	"		25.25@29.00
Powdered, 80@90%	lb.		.01¾@.02
Chloride, com'l	"		.02¼
Chem. pure cryst	"		.05
Nitrate, com'l, pow'd.	"		.07
Pure, pow'd	"		.07@.08
Oxide, com'l, hyd. cryst	"		.18@.22
Hydrated, pure cryst.	"		.25
Pure, powd	"		.27
Sulphide	"		.40
Sulphate	"		.02¼@.02¾
Barytes—Crude, No. 1	sh. ton		9.00@10 00
No. 2	"		8.00@8.25
No. 3	"		7.75@8.00
Prime White	"		12.00@15.00
American, floated	"		12 50@18.00
Foreign, floated	"		19.50@21.00
Bauxite—Georgia, f.o.b. cars, first grade	lg. ton		3.25@4.50
Second grade	"		3.00
Alabama, f. o. b. cars Rock Run	"		3.85
Benzole—90%	gal.		1.00@1.10
Bismuth—Oxide, hydr.	lb		2.25@2.56
Nitrate cryst	oz.		.09
Bitumen	lb.		.03½@.05
Bone Ash			.03¾@.03½
Borax—			
Cryst. and pow'd	"		.07@.07¼
Calcined	"		.19
Bromine—Bulk	"		.45
Cadmium			
Metallic	"		1.90@2.00
Sulphide	"		1.90@2.25
Sulphate	"		2.25@2.50
Calcium—			
Carbide, in ton lots, f. o. b. Niagara Falls, N.Y.	lb.		.03@.04
Acetate, pure white	"		.10
Carbonate, ppt	"		.05
Chem. pure	"		.75
Chloride	100 lbs.		.90
Sulphite	lb.		.05
Cement—			
Portland, Am., 400 lbs.	bbl.		1.95@2.00
Foreign	"		1.75@2.50
"Rosendale," 300 lbs.	"		.95
Sand cement, 400 lbs.	"		1.85@1.95
Slag cement, imported	"		1.65
Ceresine—			
Orange and Yellow	"		.10@.10¼
White	"		.11½@.13½
Chalk—Com'l, lump	sh. ton		2.00@2.10
Ppt	lb.		.04½
French	100 lbs.		.30@.35
Chlorine—Liquid	lb.		.30
Water	"		.15
Chrome Ore—			
(50% chrome) ex ship	lg. ton		24.50
Clay, China—Am. com.	"		8.00
Am. best	"		9.00
English, common	"		11.00@12.50
Best grade	"		15.00
Fire, ground, f.o.b. Jersey City, N. J.	"		4.00@5.00
Slip Clay, f.o.b. Albany	"		3.00
Cobalt—Carbonate	lb.		1.50
Nitrate	"		1.90
Oxide—Black	"		1.76
Gray	"		2.25
Smalt	"		.25@.30
Chem. pure	"		5.00
Copperas	100 lbs.		.60@62½
Copper—			
Carbonate	lb.		.14@.16
Chloride	"		.25
Nitrate, crystals	"		.35
Oxide, black	"		.16@.20
Ppt., pure	"		.50
Red	"		.16
Ppt., pure	"		.35@.40
Cream of Tartar—crys.	"		.23¼@.23½
Granulated	"		.23¼@.23½
Powdered	"		.23¾@.24
Cryolite	"		.08½
Explosives—			
Blasting powder, A	"		.08½
Blasting powder, B	"		-05@.05½
"Rackarock," A	"		.25
"Rackarock," B	"		.18
Judson R.R. powder, by carload	"		.10
Dynamite, (40% nitro-glycerine)	"		.15
(50% nitro-glycerine)	"		.17
(60% nitro-glycerine)	"		.19
(75% nitro-glycerine)	"		.23
Glycerine, for nitro (32 2-10° Be.)	"		.10¼@.12
Nitro-Benzole	"		.14@.15
Feldspar—Ground	sh. ton		6.75@7.75
Flint—(See Silica).			
Fluorspar—Am. lump	"		5.50
Gravel	"		5.50@7.00
Crushed	"		5.50@7.50
Ground	"		11.00
Extra fine ground	"		12.50
Foreign, lump	"		8.00@12.00
Ground	"		11.50@14.00
Fuller's Earth—Lump	100 lbs.		.75
Powdered, in bags	"		.82½
Graphite—(See Plumbago).			
Gypsum—			
Am. gr'd (terra alba)	sh. ton		7.60
Fertilizer	"		4.50
Rock	lg. ton		4.00
English and French	"		14.00@16.00
Infusorial Earth—			
Ground, best qualities	"		20.00@.40 00
Iodine—Crude	100 lbs.		2.55
Resublimed	"		2.90@2.95
Iron—Chromate	lb.		.03@.10
Muriate	"		.05
Nitrate, com'l	"		.02
Pure	"		.04
Oxide	"		.02@.12
Scale	"		.01@.03
Kaolin—(See Clay, China).			
Kanit	lg.ton		8.80@9.05
Kryolith—(See Cryolite.)			
Lead—Acetate			
White, broken	lb.		.07
Com'l, broken	"		.06¾
White, gran.	"		.08¼
Nitrate, com'l	"		.0b½@.06¾
Chem. pure	"		.35
Lime—Bldg., ab. 250 lbs	bbl.		.65@.75
Finishing	lb.		.75@.80
Magnesite—			
Crude, lump	lg. ton		7.00@12.00
Calcined, foreign	"		20.00@35.00
Domestic	"		12.00@15.00
Bricks	"		45.00@65.00
Magnesium—			
Metallic, ingots (Ger).	kg.		5.95@6.90
Powdered (Ger.)	"		6.19
Ribbon or wire (Ger.)	"		10.00
Carbonate	lb.		.10
Chloride, com'l	"		.01¾
Fused	"		.20
Nitrate	"		.60
Manganese—			
Crude, powdered, 70@75% binoxide	"		.01¼@.01½
75@85% binoxide	"		.01½@.02½
85@90% binoxide	"		.02½@.03¼
90@95% binoxide	"		.03¼@.05½
Carbonate	"		.16@.20
Chloride	"		.04
Ore, 50%	unit		.21@.22½
Marble—			
Flour	sh. ton		8.08
Mercury—Bichloride	lb.		.59@.60
Bisulphate	"		.41
Mica—Ground	"		.04@.06
Sheets, according to size and quality			
Mineral Wool—F. o. b. Stanhope, N. J.:			
Slag, ordinary	100 lbs.		1.00
Selected	"		1.67
Extra	"		4.00
Rock, ordinary	sh. ton		37.00
Selected	100 l s.		4.00
Extra	"		7.00
Monazite—92%	sh. ton		140.00
Nickel—			
Oxide, black No. 1	lb.		1.00
Black No. 2	"		.60
Green, No. 1	"		1.00
No. 2	"		.60
Oils—Black, reduced 29 gr., 25@30%	gal.		.07@.07½
Black reduced 29 gr. 15 cold test	"		.08@.08½
Black reduced 29 gr. zero	"		.11@.12
Black reduced summer	"		.06½@.07
Smith's Ferry, 33@34 gr.	"		.07½@.08½
West Virginia, 29 gr.	"		.22@.24
Cylinder, dark steam ref	"		.08@.13
Dark filtered	"		.11@.16
Light filtered	"		.13@.15
Extra cold test	"		.21@.25
Gasolene, 86°	"		.14@.15
88°	"		.16@.17
90°	"		.19@.20
Neutral filtered, lemon, 33@34 gr.	"		.13@.18½
White, 33@34 gr.	"		.21@.23
Wool grade, 32 gr.	"		.11@.14
Naphtha, crude, 68@72°	"		.10@.10½
Paraffine, high viscosity	"		.20@.25
23½@24 gr	"		.09¼@.09¾
25 gr	"		.08¼@.08½
28@32 gr	"		.07¼@.07¾
Red No. 1	"		.08¾@.09¼
No. 2	"		.08¾@.08¾
Linseed, domestic raw	"		.41@.42
Boiled	"		.43@.44
Calcutta, raw	"		.54
Graphite, lubricating, Am. dry	lb.		.10
In oil	"		.12
Axle grease	"		.08½@.10
Wool grease	"		.05@.06
Ozokerite—Foreign	"		.06@.08
Paints and Colors—			
Benzine, Sumatra	"		.35@.40
Marbled	"		.27@.28
Chrome green, common	"		.05@.06
Extra	"		.14½@.15
Yellow, common	"		.10
Best	"		.25
Silica Graphite, thick	"		.12
Thinned	gal.		1.15
Lampblack—Com'l	lb.		.03@.05
Refined	"		.08@.10
Calcined	"		.12@.20
Fine spirit	"		.20@.35
Litharge, Am. powd.	"		.04¾@.05¼
English flake	"		.07¾@.08
Metallic, brown	"		.05¼
Red	"		18.00@20.00
Ocher, Am. best	sh. ton		15.00
Dutch, washed	lb.		.04¾@.05
French, washed	"		.01@.01¾
Orange mineral, Am.	"		.07½@.08
Foreign, as to make	"		.08½@.10¾
Paris green, pure	"		.12@.14
Red lead, American	"		.05¼@.06
Foreign	"		.07½@.08
Shellac, D. C	"		.28@.30
Native	"		.16@.17
Turpentine, spirits	gal.		.30@.30½
Ultramarine, best	lb.		.25
Vermilion, Amer. lead.	"		.14@.16
Quicksilver, bulk	"		.59
Chinese	"		.65@.80
English, imported	"		.60@.95
Artificial	"		.12@.20
White lead, Am., dry	"		.04½@.04¾
In oil	"		.05¼@.06
English, in oil	"		.07½@.08¼
Whiting, common	100 lbs.		.35@.40
Gilders	"		.45@.50
Zinc white, Am., ex. dry	lb.		.03¾@.04½
American, red seal	"		.04¾@.05¼
Green seal	"		.05¾@.06¼
Foreign, red seal, dry	"		.07¾@.08½
Green seal, dry	"		.08½@.09¾
Pitch—Coal tar	gal.		.08
Plumbago—American, pulverized, f. o. b., Providence, R. I.	sh. ton		30.00
Lump	"		8 00
German, lump	100 lbs.		.95
Pulverized	lg. ton		16.50
Ceylon, crude	lb.		.01¼@.04½
Pulverized	"		.02@.05
Italian, pulv	"		.01½
Potash—			
Caustic	"		.04@ 05
Potassium—			
Metallic, in balls (Ger).	kg.		17.85
Bicarbonate cryst	lb.		.08½
Powdered or gran	"		.12
Bichromate	"		.09½@.09¾
Bromide, bulk	"		.44@.45
Carbonate	"		.03@.04
Chromate	"		.35
Cyanide (98@99%)	"		.28
Double manure salts, 48@53% (basis 48%)	100 lbs.		1.03
Muriate, 80@85% (basis 80%)	"		1.78
Permanganate, pure cr.	lb.		.15½@.16
Chem. pure	"		.34
Potassium—Silicate	lb.		.06
Prussiate, yellow	"		.16@.17
Red	"		.37@.40
Sulphate, 90@95% (basis 90%)	100 lbs		1.99½
Sulphide, com'l	"		.10
Quartz—(See Silica).			
Rosin—Common	gal.		.10
Best	"		.16
Saltpeter—Crude	lb.		.04¼@.04¾
Double refined	"		.04½@.05
Silica—			
Ground quartz	sh. ton		6.75@8.00
Best	"		12.00
Lump quartz	"		2.50@4.00
Silver—Chlor.de	oz.		.65
Nitrate	"		.39@.41½
Oxide	"		.85@1.10
Slate—Flour	sh. ton		7.50
Sodium—Metallic	lb.		.75
Acetate, com'l	"		.03½
Chem. pure	"		.05⅝
Bichromate	"		.07¾@.08
Bisulphite, com'l	"		.01⅜@.02¼
Bromide	"		.49@.50
Chlorate, com'l	"		.09¾@.10
Hyposulphite, com'l	100 lbs.		1.60
Nitrite	lb.		.07½@.07¾
Peroxide	"		.45
Silicate, com'l, 40°	"		.01@.01½
Sulphate, gran., purl'd.	"		.03
Tungstate, com'l	"		.35
Pure	"		.50
Strontium—Carb., ppt.	"		.13@.14
Nitrate	"		.07½@.07¾
Sulphur—Roll	100 lbs.		2.10
Flour	"		2.20@2.25
Talc—N. C. No. 1	sh. ton		15.00@15.50
No. 2	"		10.00@12.00
N. Y., Fibrous	"		8.00@9.00
French, best	"		20.00
Italian, best	"		20.00
Tin—Chloride	lb.		.11@.13
Crystals	"		.18@.18½
Muriate	"		.10
Oxide, white, ch. pure	"		.28½@.35
Uranium—Oxide	"		1.80@2.00
Zinc—Metallic, ch. pure	"		.06¾
Carbonate	"		.15
Chloride	"		.06
Dust	"		.06¾.08
Sulphate	"		.02@.02¼

THE RARE ELEMENTS.

Prices given are at makers' works in Germany, unless otherwise noted.

	Cust.	Meas.	Price.
Barium—Amalgam	grm.		$1.19
Electrol	"		5 71
Beryllium—Powder	"		5.95
Crystals	"		9.04
Nitrate (N Y.)	oz.		2.50
Boron—Amorphous, pure	grm		.19
Crystals, pure	"		1.43
Nitrate (N. Y.)	lb.		1.50
Calcium—Electrol	"		4.28
Cerium—Fused	grm.		2.02
Nitrate (N. Y.)	lb.		28.00
Chromium—Fused	kg.		5.95
Pure powder	"		1.79
Chem. pure cryst	grm.		.19
Cobalt—(98@99%)	kg.		5.95@5.71
Pure	"		30.94
Didymium—Powder	grm.		3.81
Nitrate (N. Y.)	oz.		4.00
Erbium	grm.		3.09
Nitrate (N. Y.)	oz.		3.00
Gallium	grain		9.52
Germanium—Powder	grm.		33.32
Fused	"		35.70
Glucinum—Powder	"		5.95
Crystals	"		9.04
Nitrate (N. Y.)	lb.		2.50
Indium	grm.		4.05
Iridium	"		1.19
Lanthanum—Powder	"		4.28
Electrol, in balls	"		9.04
Nitrate (N. Y.)	oz.		3.50
Lithium	grm.		2.38
Nitrate (N. Y.)	oz.		.60
Molybdenum—Powder	kg.		2.62
Fused, electrol	100 grms.		15.47
Niobium	grm.		3.81
Osmium	"		.95
Palladium	"		.95
Rhodium	"		2.87
Rubidium—Pure	"		4.76
Ruthenium—Pure	"		1.55
Selenium—Com'l powder	kg		26.18
Sublimed powder	"		35.70
Sticks	"		28.56
Silicium—Amorphous	100 grms.		2.87
Crystals, pure	"		7.14
Strontium—Electrol	grm.		6.19
Tantalium—Pure	"		3.57
Tellurium—Ch. p. sticks	100 grms.		11.90
Powder	"		9.52
Thallium	kg.		23.80
Thorium—Metallic	grm.		7.85
Nitrate 49@50% (N. Y.)	lb.		7.50@8.00
Titanium	grm.		.71
Uranium	"		.48
Nitrate (N. Y.)	oz.		.25
Vanadium—Fused	grm.		1.19
Wolfram—Fused	100 grms.		25.80
Powder, 95@98%	kg.		2.38
Chem. pure	"		7.14
Yttrium	grm.		3.33
Nitrate (N. Y.)	oz.		4.00
Zirconium—Com'l	kg.		119.00
Pure	grm.		.71
Nitrate (N. Y.)	oz.		1.00

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(See Pages 754, 769 and 19 of Engineering and Mining Journal, Dec. 24, 1898.)

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ore crusher 7 x 10, 8,000 lbs.; two sets crushing rolls, 14 x 20, with heavy countershaft and fly wheel, 13,000 lbs.; engine, 30 H. P. and boiler, 40 H. P., with fixtures complete, 14,000 lbs.; all new, on cars, at four cents lb. cash, STICKNEY, Assignee, Antelope, Idaho.

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BREECE MINING COMPANY, 24 BROAD STREET, NEW YORK.

NOTICE OF DIVIDEND NO. 4.

NEW YORK, FEBRUARY 1st, 1899.

At a meeting of the Board of Directors of Breece Mining Company, held this day, a dividend of FIVE (5) CENTS per share was declared payable March 1st, 1899, to stockholders of record February 15th, 1899. Transfer books will close February 14th, at three (3) o'clock, p. m., and remain closed until ten (10) o'clock, a. m., March 6th, 1899. WILLIS A. BARNES, Secretary.

HOMESTAKE MINING COMPANY,

MILLS BUILDING, 15 BROAD STREET.
NEW YORK, Feb. 14, 1899.

DIVIDEND NO. 259.

The regular monthly dividend of TWENTY-FIVE (25) CENTS PER SHARE has been declared for January, payable at the office of the Company, San Francisco, or at the transfer agency in New York, on the 25th inst. Also EXTRA DIVIDEND (No. 260) of Twenty-five (25) Cents per Share, payable at the same time and place. Transfer books close on the 20th inst.

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